

Nutritional Nirvana

2<sup>nd</sup> Edition

By Chef Jay Kinney

Copyright 2022

To my wonderful wife Miranda

## Introduction

## Macronutrients

- Calories
- Fats
  - Omega 3
  - Omega 6
- Cholesterol
- Carbohydrates
- Fiber
- Sugar
- Protein
- Essential Amino Acids
  - Histidine
  - Isoleucine
  - Leucine
  - Lysine
  - Methionine
  - Phenylalanine
  - Threonine
  - Tryptophan
  - Valine

## Vitamins

- Vitamin A
- Vitamin B1
- Vitamin B2
- Vitamin B3
- Vitamin B5
- Vitamin B6
- Vitamin B7

- Vitamin B9
- Vitamin B12
- Vitamin C
- Vitamin D
- Vitamin E
- Vitamin K
- Choline

## Minerals

- Calcium
- Magnesium
- Phosphorus
- Potassium
- Sodium
- Copper
- Iodine
- Iron
- Manganese
- Selenium
- Zinc

## Glycemic Index

## Antioxidants

## Prebiotics & Probiotics

## CoQ10

## Creatine

## Conclusion

## Bibliography

## About the Author

## Introduction

This book is for educational purposes only. The information that follows does not replace medical advice. Before making dietary changes to your life, seek the advice of a naturopathic physician, clinical nutritionist or any qualified medical professional. Since I am not in the medical or nutrition profession, I cannot recommend specific health advice. Eat at your own risk.

My goal with this book is to inspire you to take charge of your health. I am not advising that you live on only one food, or live on fruit, or vegetables, etc. It is up to everyone to make their own decisions on what we eat. You cannot outsource your health to your doctor.

I am the classic man who refuses to see the doctor. Ever notice how the more money Americans spent on “healthcare” the unhealthier we have become overall? We are better off spending more time and money on PREVENTION. We are what we eat. The body is self-healing and self-regulating. We are all energy. Energy is never destroyed; it is merely transferred.

Let’s be very clear: I am not advocating for never going to the doctor. What I am saying is that many ailments or health issues can be solved with a holistic approach versus the “take another pill” allopathic approach.

It is ideal to design our life based on healthy foods, healthy habits and a healthy mindset. People ask me all the time, “Hey Chef, what do you eat?” It really comes down to personal preference.

I have examined the world of vegans, vegetarians, paleo, ketogenic women over 45, the folks who are thrilled to track Weight Watcher’s points and carnivores. I would say that we should not divide ourselves up into little dietary tribes who despise the other tribe. Dietary tribalism should be avoided. What foods should we eat? To be intellectually honest: I have no clue! It is all trial and error. Every diet works in the short-term, but in the long-term. This is where the real homework begins.

I am a big believer in the importance of fat in the diet. Ever notice how saturated fat and cholesterol were demonized while Crisco, margarine and vegetable oils have destroyed so many Americans? Just a thought. Our bodies need natural fats and cholesterol, animal-based, not the synthetic versions that line the middle aisles at grocery stores. The middle aisles were designed to pull us away from the outer layer of a store where most of the better food reside.

A good rule of thumb is to buy perishable foods. Hell, if you just avoid the government subsidized crops, corn, soy and wheat, along with sugar, preservatives and food additives, you are on your way to better health. Let’s kick this book off with what you should not eat.

GMO Corn = Metabolic problems

GMO Wheat = Intestinal problems

GMO Soy = Hormonal problems

GMOs are one big issue, a topic for another day. The glyphosates are one of the main culprits for destroying people from the inside out. Gut health matters! If you destroy your gut microbiome, you will shut down your immune system.

In my research, I think it is safe to say that all of us can reduce the amount of sugar that we consume. It worked for me. As a kid, I was inundated with mountains of sugar in the form of fizzy pop, ice cream, popsicles, candy, slushies, etc. I had to learn the importance of health and nutrition on my own. “That organic kid” was a common nickname in my early 20’s. Believe it or not, shopping at Whole Foods did not send me into the poor house even though they have the unfortunate nickname of “whole paycheck.”

Before we had endless grocery stores, people faced calorie conservation. Today, we are faced with calorie explosion. Fasting is a dietary discipline that everyone can do. When you have little food, fasting can be a necessary metabolic tool to recycle old proteins and therefore repair our bodies (aka autophagy).

However, despite the rumors that swirl in the Keto Cult, fasting will not give you superpowers, nor will it increase your testosterone levels by 2,000% (despite what your Scientologist cult leader on YouTube might say).

Fat plays a vital role in our daily caloric demands. Our brain is made up of DHA, saturated fat and cholesterol. This is important because the body can utilize fat (ketones) more efficiently than sugar (glucose). Both are legitimate energy sources for the body. Insulin resistance is a huge problem that I have discovered when we feast on tons of carbs and sugar. The more you exercise, the more carbs that you can use to fuel the fire of exercise. Maybe drop them on rest days. Test it for yourself.

People just consume way too much sugar. Proper insulin management is a big key for longevity and optimal health. When we fast, or not eat for a while, we are sharpening our minds, speeding up physical recovery and giving our digestive system a break. In fact, every single person on the planet fasts. When we sleep, we are also fasting. How long we fast is another question.

Excess sugar and starch will throw your insulin levels off the wall. I like to focus my plate on grass fed meats, wild caught seafood, organic fruits and vegetables, organic, pasture-raised, grass-fed, full fat dairy all that jazz whenever possible.

Fortunately, I have come a long way in my nutrition journey. I used to be the cereal everyday kid. As a kid, we had anywhere from 20 to 30 different boxes of cereal in the house. How much cereal do you need!? As a kid, I was constantly inundated with infections, colds, flu, etc. Poor nutrition was a major reason for my ailments.

Full disclosure: I am not a doctor. I have no need for unnecessary chemicals and toxins. I always advise people to avoid these additives:

## Trans Fat

Back in the day, 2010-2012, I worked at Walmart with a McDonald's inside. December 2012 was the time when I gave up fizzy pop and fast food. In hindsight, I discovered the massive amount of trans fat in all of the fast food choices. Do yourself a favor and avoid fast food like the plague!

"Vegetable Oils" are the real villains in the food world. Give up on margarine and Crisco since these fake foods are for fake people. Crisco was originally used to make candles and soap! Margarine is very close to plastic on a molecular level. Partially hydrogenated and fully hydrogenated vegetable oils are often mislabeled on many foods.

If a food has 0.50g or less, "legally" it can be labeled as 0g for trans-fat! Food manufacturers can literally lie their way to the bank on this loophole. These corrupt companies use this slimy strategy to maximize their profits at the expense of your health.

Trans fat helps to extend shelf life for packaged foods, but they are horrible for your body. This type of fat is made from the addition of hydrogen atoms to vegetable oils. It would behoove all of us to avoid shortening and margarine:

- known to clog arteries that may lead to heart disease
- decreases testosterone in men (less fun with your partner)
- increases the risk of Alzheimer's, cancer, diabetes, arthritis, liver damage and osteoporosis

Which foods contain TRANS-FAT?

Black Bear Diner Biscuits & Gravy	19g
Captain D's Seafood Feast	16g
Romano's Macaroni Grill Rosa's	
Signature Caesar Salad with Salmon	15g
Big Boy Sausage Gravy (1 serving)	14.25g
Beef O Brady's Five Cheeseburger with Fries	13g
Beef O Brady's Five Cheese Griller with Fries	12g
Logan's Roadhouse Mesquite Wood	
Grilled Salmon with Rice and Dill Sauce	12g
Red Robin Pig Out Tavern Double Burger	12g
Red Robin Red's Tavern Double Burger	11g

Red Robin Haystack Tavern Double Burger	11g
Red Robin Cowboy Ranch Tavern Double Burger	11g
<b>Red Robin Kid's Red's Burger (beef)</b>	<b>10g</b>
<b>Red Robin Kid's Red's Burger (veggie)</b>	<b>10g</b>
Red Robin Tavern Bun	10g
Shoney's Biscuits & Gravy	10g
Texas Roadhouse Bone In Ribeye	10g
Shoney's Pancakes (4 pancakes)	10g
Shoney's Country Fried Steak Breakfast with biscuit	10g
Captain D's Chicken Family Meal (14 piece)	9g
O'Charley's Loaded Potato Soup	8g
Carrabba's Italian Grill	
Calamari with Marinara & Ricardo Sauce	8g
Famous Dave's Farmhouse	
Platter with Boneless Wings	8g
Famous Dave's Cheese Curds with	
Dave's Ranch Dressing & Sassy Sauce	7g
Dunn Brothers Apple Fritter	7g
Eastside Mario's Lasagna	7g
The Cheesecake Factory	
Nachos with Spicy Chicken	6g
Outback Steakhouse Sydney Shrooms	6g
Outback Steakhouse Classic Prime Rib (12 oz.)	6g
Logan's Roadhouse Baked Potato	6g
Logan's Roadhouse Sweet Potato	6g
Beef O Brady's Prime Rib Garlic Melt with Fries	6g
Beef O Brady's Shrimp Fajitas	6g
Beef O Brady's Lighter Side	

Grilled Shrimp with Broccoli & Rice	5g
Beef O Brady's Lighter Side	
Grilled Chicken with Broccoli & Rice	5g
Yard House Mac & Cheese (large)	5g
Maggiano's Little Italy Bone In Ribeye (16 oz.)	5g
O'Charley's Chicken Harvest Soup	5g
Hardee's Beef Taco Salad	5g
Shoney's All-Star Breakfast with biscuits and potatoes	5g
Logan's Roadhouse Porterhouse (20 oz.)	5g
Outback Steakhouse Bloomin' Onion	5g
Outback Steakhouse Bone In Ribeye (18 oz.)	4.5g
Outback Steakhouse Taz Crawfish	4.5g
Captain D's Supreme Sampler	4.5g
Honeydew Donuts Frozen Coffee (large)	4.5g
Texas Roadhouse Bread Pudding	4.5g
Hooter's DD Burger	4.5g
Carrabba's Italian Grill Zucchini Fritte	4.5g
The Cheesecake Factory Sweet Potato Enchiladas	4.5g
The Cheesecake Factory Classic Italian Trio	4.5g
The Cheesecake Factory Macaroni & Cheese	4.5g
Texas Roadhouse Bread Pudding	4.5g
Texas Roadhouse All-American Cheeseburger	4g
Logan's Roadhouse T-Bone (16 oz.)	4g
Logan's Roadhouse Coastal Carolina	
Wood Grilled Shrimp with Rice	4g
Outback Steakhouse Three Cheese Steak Dip	4g
Outback Steakhouse Hot Kookaburra Wings (large)	4g
Shoney's Garlic Cheese Biscuit (1 biscuit)	4g



Texas Roadhouse Smokehouse Burger	4g
Waffle House Pecan Pie (1 regular slice)	4g
Hardee's Chicken Taco Salad	4g
Black Bear Diner Homestyle Fried Chicken	4g
Black Bear Diner Bigfoot Chicken Fried Steak	4g
TGI Fridays Tostado Nachos	4g
Yard House Chicken Nachos	4g
Beef O Brady's Buffalo Chicken Sandwich with Fries	4g
Captain D's Deluxe Seafood Platter	4g
Twin Peaks Spicy Meatball Skillet with garlic bread	4g
Honeydew Donuts Frozen Caramel Latte (large)	4g
O'Charley's New Orleans Cajun Chicken Pasta	4g
Logan's Roadhouse Mesquite Grilled	
Pork Chops with Cinnamon Apples	4g
Carl's Jr 2/3 lb. Monster Angus Thick Burger	4g
Carl's Jr Spicy Double Western Bacon Cheeseburger	4g
The Cheesecake Factory Ultimate	
Red Velvet Cheesecake	4g
The Cheesecake Factory Classic Burger	3.5g
The Cheesecake Factory Smokehouse BBQ Burger	3.5g
The Cheesecake Factory Mushroom Burger	3.5g
The Cheesecake Factory Breakfast Burrito	3.5g
The Cheesecake Factory Cinnamon Roll Pancakes	3.5g
The Cheesecake Factory Monte Cristo Sandwich	3.5g
The Cheesecake Factory Celebration Cheesecake	3.5g
The Cheesecake Factory Carrot Cake	3.5g
Texas Roadhouse Porterhouse T-Bone	3.5g
Denny's Double Cheeseburger	3.5g

Logan's Roadhouse Loaded Potato Soup (bowl)	3.5g
Burger King Bacon King	3.5g
La Madeleine Breakfast Croissant with Bacon	3.5g
Longhorn Steakhouse Chocolate Stampede	3.5g
<b>Shoney's Kid's Shoney Bear Pancake with bacon</b>	<b>3.5g</b>
Shoney's Shrimp & Grits	3.5g
Black Bear Diner House Made Meatloaf Dinner	3.5g
Black Bear Diner Slow Cooked Pot Roast Dinner	3.5g
Captain D's Fish & Chicken (2 piece)	3.5g
Captain D's White Fish, Shrimp & Crab	3.5g
Captain D's Captain Sandwich	3.5g
Chick-Fil-A Mac & Cheese Tray	3.5g
Twin Peaks Spicy Meatball Parmesan Sandwich	3.5g
<b>O'Charley's Kid's Mac &amp; Cheese</b>	<b>3.5g</b>
O'Charley's Classic French Dip Sandwich	3.5g
Outback Steakhouse Aussie Cheese Fries	3.5g
Little Caesar's Pepperoni Thin Crust Pizza (large pizza)	3.5g
Little Caesar's Beef Deep Dish Pizza (large pizza)	3.5g
Little Caesar's Deep Dish Pizza (large pizza)	3g
Little Caesar's Three Meat Treat (large pizza)	3g
Outback Steakhouse Cheesecake	3g
Captain D's Catfish Feast	3g
Logan's Roadhouse Old-Fashioned Roadhouse Burger	3g
Logan's Roadhouse Deluxe Burger	3g
Logan's Roadhouse Sauteed Mushrooms	3g
Logan's Roadhouse Fried Cheese & Bacon Burger	3g
P. F. Chang's NY-Style Cheesecake	3g
Maggiano's Little Italy Our Famous Rigatoni "D"	3g

Maggiano's Little Italy Twin Cold Water Lobster Tails	3g
Red Robin Monster Burger	3g
Red Lobster Cajun Chicken Linguine	3g
Jack in the Box Bacon Ultimate Cheeseburger	3g
Jack in the Box Jack's Spicy Chicken Sandwich	3g
Boston Market Rotisserie Prime Rib	3g
Oberweis Vanilla Milkshake	3g
Oberweis Chocolate Milkshake	3g
Oberweis Strawberry Milkshake	3g
Olive Garden Chicken & Shrimp Carbonara	3g
Red Lobster Seaside Shrimp Trio	3g
Sbarro NY Pepperoni Pizza (1 slice)	3g
Rally's ½ lb. Chicken Bites & Fries	3g
Rally's Plain Boneless Chicken Wings (20 piece)	3g
Denny's Double Cheeseburger	3g
Wawa Double Cheeseburger	3g
O'Charley's Ultimate Omelet	3g
Wendy's Baconator	3g
Longhorn Steakhouse Texas Brisket Queso	3g
Big Boy Super Big Boy Burger	3g
Hooter's Cheeseburger Sliders	3g
Hooter's Texas Melt	3g
Hooter's Fajita Chicken Quesadilla	3g
Hooter's Fajita Steak Quesadilla	3g
Twin Peaks Chicken Fried Steak	3g
Carrabba's Italian Grill Strawberry Cheesecake	3g
Maggiano's Little Italy Bombalina Platter	3g
Yard House Grilled Korean BBQ Beef	3g

Romano's Macaroni Grill

Steak & Potatoes with Rosemary "Butter" 3g

Romano's Macaroni Grill Signature

Truffle Mac & Cheese with Prosciutto 3g

Romano's Macaroni Grill Seafood Ravioli 3g

Eastside Mario's Burger 3g

Black Bear Diner Parmesan Sourdough Cheeseburger 3g

Black Bear Diner Prime Rib 3g

Beef O Brady's Prime Rib Sandwich with Fries 3g

Beef O Brady's Reuben with Fries 3g

Beef O Brady's California Turkey Melt 3g

**Beef O Brady's Kid's Grilled Cheese 3g**

The Cheesecake Factory Key Lime Cheesecake 3g

The Cheesecake Factory Caramel Pecan Turtle Cheesecake 3g

The Cheesecake Factory Tiramisu Cheesecake 3g

The Cheesecake Factory Oreo Milkshake 3g

The Cheesecake Factory Godiva Chocolate Cheesecake 3g

The Cheesecake Factory Cinnabon Cinnamon Swirl Cheesecake 3g

The Cheesecake Factory Toasted Marshmallow

S'mores Galore Cheesecake 3g

The Cheesecake Factory Dulce de Leche Caramel Cheesecake 3g

The Cheesecake Factory White Chocolate Raspberry Truffle Cheesecake 3g

The Cheesecake Factory Fresh Banana Cream Cheesecake 3g

The Cheesecake Factory Chocolate Mousse Cheesecake 3g

The Cheesecake Factory Hot Spinach & Cheese Dip 3g

The Cheesecake Factory Fettuccine Alfredo 3g

The Cheesecake Factory Shepherd's Pie 3g

The Cheesecake Factory French Dip Cheeseburger 3g

The Cheesecake Factory Chicken Parmesan Pizza Style	3g
The Cheesecake Factory California Omelette	3g
The Cheesecake Factory Southern Fried Chicken Sliders	2.5g
The Cheesecake Factory Baked Potato Soup (bowl)	2.5g
The Cheesecake Factory Pasta Carbonara	2.5g
The Cheesecake Factory Louisiana Chicken Pasta	2.5g
The Cheesecake Factory Bistro Shrimp Pasta	2.5g
The Cheesecake Factory Chicken Piccata	2.5g
The Cheesecake Factory Famous Meatloaf	2.5g
The Cheesecake Factory Old Fashioned Burger	2.5g
The Cheesecake Factory Thai Coconut Lime Chicken	2.5g
The Cheesecake Factory Shrimp & Chicken Gumbo	2.5g
The Cheesecake Factory Hot Fudge Sundae	2.5g
The Cheesecake Factory Chocolate Milkshake	2.5g
The Cheesecake Factory Vanilla Milkshake	2.5g
The Cheesecake Factory Fresh Strawberry Cheesecake	2.5g
The Cheesecake Factory Oreo Dream Cheesecake	2.5g
The Cheesecake Factory Coconut Cream Pie Cheesecake	2.5g
The Cheesecake Factory Very Cherry	
Ghirardelli Chocolate Cheesecake	2.5g
The Cheesecake Factory Salted Caramel Cheesecake	2.5g
The Cheesecake Factory Mango Key Lime Cheesecake	2.5g
The Cheesecake Factory Lemon Raspberry Cheesecake	2.5g
The Cheesecake Factory Chocolate Tuxedo Cheesecake	2.5g
Denny's Classic Patty Melt	2.5g
Denny's Country Fried Steak with Gravy	2.5g
Hooter's BBQ Pork Sliders	2.5g
Hooter's Baja Burger	2.5g

Hooter's Burger	2.5g
Hooter's Western BBQ Burger	2.5g
Hooter's Burger Sliders	2.5g
Sonic Blast with Snickers (large)	2.5g
Texas Roadhouse Bone In Pork Chop	2.5g
Texas Roadhouse BBQ Chicken Sandwich	2.5g
Texas Roadhouse Fried Pork Sandwich	2.5g
Texas Roadhouse Mushroom Jack Chicken Sandwich	2.5g
Little Caesar's Ultimate Supreme Pizza (large pizza)	2.5g
Little Caesar's Pepperoni Pizza (large pizza)	2.5g
Outback Steakhouse The Bloomin' Burger	2.5g
Boston Market Meatloaf	2.5g
Baskin Robbins Vanilla Milkshake	2.5g
Baskin Robbins Mint Chocolate Milkshake	2.5g
Burger King Sausage, Egg & Cheese Croissan'Wich	2.5g
Jack in the Box Chicken Sandwich	2.5g
Dairy Queen Crispy Chicken Sandwich	2.5g
Shake Shack Chocolate Birthday Cake Shake	2.5g
Whataburger Triple Meat Burger	2.5g
Captain D's Butterfly Shrimp (15 piece)	2.5g
Captain D's Chicken (4 piece)	2.5g
Captain D's Jalapeno Poppers	2.5g
Captain D's Southern Style White Fish Fillet	2.5g
Carl's Jr. Biscuit & Gravy	2.5g
Cold Stone Creamery Apple Pie	
A La Cold Stone Ice Cream (12 oz.)	2.5g
Cold Stone Creamery Cheesecake Fantasy (12 oz.)	2.5g

Cold Stone Creamery Pineapple Upside	
Down Cake Ice Cream (12 oz.)	2.5g
Cold Stone Creamery	
Strawberry Blonde Ice Cream (12 oz.)	2.5g
Culver's Root Beer Shake	2.5g
Olive Garden Asiago Chicken Tortelloni Alfredo	2.5g
Big Boy Biscuit	2.5g
Texas Roadhouse Fried Pork Sandwich	2.5g
Texas Roadhouse Pulled Pork Sandwich	2.5g
Romano's Macaroni Grill Chicken Scaloppine	2.5g
Honeydew Donuts Frozen Mocha Madness (large)	2.5g
Twin Peaks Fried Chicken	2.5g
Applebee's Classic Broccoli &	
Blackened Shrimp Alfredo	2.5g
Applebee's Classic Broccoli Chicken Alfredo	2.5g
Applebee's Crispy Cheese Bites	2.5g
Red Lobster Cheddar Bay Biscuit (1 biscuit)	2.5g
Red Lobster Garlic Linguini Alfredo with Chicken	2.5g
Red Lobster Garlic Linguini Alfredo with Crab	2.5g
Red Lobster Garlic Linguini Alfredo with Shrimp	2.5g
Hardee's Biscuit & Gravy	2.5g
Famous Dave's Double Stack Cheeseburger	2.5g
Famous Dave's NY Cheesecake	2.5g
On The Border Mexican Grill Beef Empanadas with Queso	2.5g
Shoney's Mashed Potatoes	2.5g
Yard House Wisconsin Fried Cheese Curds	2.5g
O'Charley's Ooey Gooey Caramel Pie (1 slice)	2.5g
Maggiano's Little Italy Italian Meatballs	2.5g

Maggiano's Little Italy Garlic Bread	2.5g
Burger King Chicken Tenders (6 piece)	2.5g
Jack in the Box Sourdough	
Grilled Chicken Sandwich	2g
Arby's ½ lb. Beef & Cheddar Sandwich	2g
Arby's Mozzarella Sticks (8 piece)	2g
Au Bon Pain Macaroni & Cheese (large)	2g
Captain D's Giant Fish Sandwich	2g
Red Lobster Wagyu Bacon Cheeseburger	2g
Hooter's Beef Philly Cheese Steak	2g
Hooter's Buffalo Chicken Quesadilla	2g
TGI Fridays Chicken Quesadilla	2g
TGI Fridays Cheddar Bacon Omelet Burger	2g
Texas Roadhouse NY Strip (12 oz.)	2g
Oberweis Banana Royale	2g
Oberweis Hot Fudge Brownie	2g
Oberweis Lava Cake	2g
Burger King Chick'n Crisp with Mayo	2g
Burger King Croissan'Wich Ham, Egg & Cheese	2g
Burger King Croissan'Wich Bacon, Egg & Cheese	2g
Sbarro NY Cheese Pizza (1 slice)	2g
Outback Steakhouse Bloomin' Fried Chicken	2g
Outback Steakhouse Chicken Tenders with Fries	2g
Logan's Roadhouse Santa Fe Tilapia	2g
Logan's Roadhouse Cinnamon Apples	2g
Carl's Jr. Jalapeno Double Cheeseburger	2g
Popeye's Catfish Po'Boy Sandwich	2g
Popeye's Cajun Fries	2g



Checker's Baconzilla	2g
Shake Shack Double Shack Burger	2g
McDonald's Big Mac	2g
Dairy Queen ½ lb. Grill Burger	2g
Wienerschnitzel Chocolate Strawberry Freezee	2g
Five Guys Bacon Cheeseburger w/ mayo	2g
Whataburger Mushroom Swiss Burger	2g
Sonic Oreo Chocolate Shake	2g
Sonic Caramel Shake	2g
Sonic Chocolate Shake	2g
Sonic Fresh Banana Shake	2g
Sonic Cheesecake Shake	2g
IHOP Country Fried Steak & Eggs with Gravy	2g
Carl's Jr. Super Star Cheeseburger	2g
Smashburger Colorado Burger	2g
Smashburger Smoked Bacon Brisket Burger	2g
Smashburger Classic Smash Burger	2g
Smashburger Bacon Smash Burger	2g
Smashburger Avocado Bacon Club Burger	2g
Smashburger BBQ Bacon Cheddar Burger	2g
Smashburger Truffle Mushroom Swiss Burger	2g
Smashburger Haystack Onions	2g
Smashburger Chocolate Shake	2g
Smashburger Vanilla Shake	2g
Smashburger Strawberry Shake	2g
Smashburger Oreo Shake	2g
Smashburger Peanut Butter Shake	2g
Burger King Whopper Sandwich with Cheese	2g

Shake Shack Double Shack Burger	2g
Chick-Fil-A Garden Herb Ranch Sauce (8 oz.)	2g
Del Taco Double Del Cheeseburger	2g
Little Caesar's Veggie Pizza (large pizza)	2g
Little Caesar's Pepperoni Cheese Bread (10 breadsticks)	2g
Papa John's Parmesan Crusted Grilled Buffalo Chicken Papadia	2g
Papa John's Parmesan Crusted Meatball Pepperoni Papadia	2g
Papa John's Parmesan Crusted Italian Papadia	2g
McDonald's Angus Mushroom & Swiss	2g
California Pizza Kitchen Garlic Cream Fettuccine	2g
Culver's Vanilla Frozen Custard (1 pint)	2g
Applebee's Breadsticks with Alfredo Sauce	2g
Applebee's Three Cheese Chicken Penne	2g
Applebee's Classic Cheeseburger	2g
Olive Garden Chicken Alfredo	2g
Olive Garden Fettuccine Alfredo	2g
Olive Garden Meatballs (3)	2g
Olive Garden Creamy Mushroom Sauce	2g
Olive Garden Alfredo Sauce (large)	2g
Wendy's Big Bacon Cheddar Cheeseburger	2g
<b>Logan's Roadhouse Kid's Chicken Tenders</b>	<b>2g</b>
Longhorn Steakhouse White Cheddar Stuffed Mushrooms	2g
Longhorn Steakhouse Praline Cheesecake	2g
<b>Longhorn Steakhouse Kid's Cheeseburger</b>	<b>2g</b>
Big Boy Dinner Spaghetti with Meat Sauce	2g

Texas Roadhouse Tater Skins	2g
Carrabba's Italian Grill Tiramisu	2g
Yard House Shiitake Garlic Noodles	2g
Yard House Chicken Tortilla Soup (bowl)	2g
Yard House Pepper Jack Burger	2g
Yard House Braised Short Rib Ravioli	2g
Yard House Lobster Garlic Noodles	2g
Dunn Brothers Belgian Waffle Trio	2g
Shoney's Chocolate Pudding (1/2 cup)	2g
Shoney's Fish & Chips Platter	2g
Maggiano's Little Italy Spinach & Artichoke Al Forno	2g
Maggiano's Little Italy Mom's Lasagna	2g
Maggiano's Little Italy Shrimp Scampi	2g
Maggiano's Little Italy Meatball Sandwich (full)	2g
Maggiano's Little Italy Gigi's Butter Cake	2g
On The Border Mexican Grill Border Sampler	2g
On The Border Mexican Grill Chicken Empanadas with Queso	2g
Twin Peaks Bourbon Pecan Pie (1 slice)	2g
Twin Peaks Cinnamon Toast Crunch Cheesecake (1 slice)	2g
Applebee's Neighborhood Beef Nachos	2g
The Cheesecake Factory Roadside Beef Sliders	2g
The Cheesecake Factory Pretzel Bites with Cheddar Cheese Fondue	2g
The Cheesecake Factory Herb Crusted Filet of Salmon	2g
The Cheesecake Factory Spaghetti & Meatballs	2g
The Cheesecake Factory Shrimp Scampi	2g
The Cheesecake Factory California Cheesesteak	2g
The Cheesecake Factory Original Cheesecake	2g
The Cheesecake Factory Reese's	

Peanut Butter Chocolate Cheesecake	2g
The Cheesecake Factory Pineapple	
Upside Down Cheesecake	2g
The Cheesecake Factory Caramel	
Apple Cheesecake	2g
The Cheesecake Factory Strawberry Milkshake	2g
Bahama Breeze Bacon & Cheddar Burger	2g
O'Charley's Veggie Omelet	2g
O'Charley's Cream of Tomato Basil Soup	2g
O'Charley's Club Sandwich	2g
Romano's Macaroni Grill Shrimp Portofino	2g
Famous Dave's Ultimate Burger	2g
Famous Dave's Bread Pudding with Vanilla Ice Cream	2g
Red Robin The Mad Love Burger	2g
Red Robin The Southern Charm Burger	2g
Red Robin Bacon Cheeseburger	2g
Red Robin Mozzarella Sticks	1.5g
<b>Captain D's Kid's Chicken Tenders</b>	<b>1.5g</b>
Dairy Queen Caramel Fudge	
Cheesecake Blizzard (medium)	1.5g
Twin Peaks Garlic Mashed Potatoes	1.5g
<b>O'Charley's Kid's Grilled Cheese</b>	<b>1.5g</b>
O'Charley's Garlic Shrimp Pasta	1.5g
O'Charley's Chicken Pot Pie	1.5g
O'Charley's Strawberry Cheesecake (1 slice)	1.5g
O'Charley's Bananas Foster Cheesecake (1 slice)	1.5g
Bob Evans Country Fried Steak	1.5g
Bob Evans Cheeseburger	1.5g

Bob Evans Bacon Cheeseburger	1.5g
Bob Evans Steakhouse Burger	1.5g
Bob Evans Rise & Shine Burger	1.5g
Denny's Junior Cheeseburger	1.5g
The Cheesecake Factory Stuffed Mushrooms	1.5g
The Cheesecake Factory Cheeseburger Spring Rolls	1.5g
The Cheesecake Factory Chicken Quesadilla	1.5g
Wendy's Single Hamburger	1.5g
Cold Stone Creamery	
Birthday Cake Remix Ice Cream (12 oz.)	1.5g
Arby's Double Beef & Cheddar	1.5g
White Castle Chicken Breast Sandwich w/ cheese	1.5g
White Castle Hot Chocolate (medium)	1.5g
Outback Steakhouse Kid's Burger	1.5g
Texas Roadhouse Dallas Filet (8 oz.)	1.5g
Texas Roadhouse Filet Medallions	1.5g
Texas Roadhouse Kid's All Beef Hot Dog	1.5g
TGI Fridays Mozzarella Sticks with Marinara	1.5g
TGI Fridays Bacon Cheeseburger	1.5g
TGI Fridays Cajun Shrimp & Chicken Pasta	1.5g
TGI Fridays Chicken Parmesan Pasta	1.5g
TGI Fridays Red Velvet Cake	1.5g
Rally's Fries (large)	1.5g
Carl's Jr Vanilla Shake	1.5g
Carl's Jr Chocolate Shake	1.5g
Carl's Jr Strawberry Shake	1.5g
Carl's Jr Oreo Cookie Shake	1.5g
Whataburger Patty Melt	1.5g

Whataburger Bacon Burger	1.5g
Whataburger Mushroom Swiss Burger	1.5g
Whataburger Double Meat Cheeseburger	1.5g
Popeye's Classic Chicken Sandwich	1.5g
McDonald's Quarter Pounder with Cheese	1.5g
Burger King Whopper with Cheese	1.5g
Sonic Bacon Cheeseburger	1.5g
Sonic Philly Cheesesteak Sandwich	1.5g
Sonic Chili Cheesy Coney	1.5g
Sonic Breakfast Steak & Egg Burrito	1.5g
McDonald's Chicken McNuggets (6 piece)	1.5g
Dairy Queen Ultimate Burger	1.5g
McDonald's Premium Crispy Chicken Classic	1.5g
McDonald's Premium Crispy Chicken Club	1.5g
McDonald's Double Cheeseburger	1.5g
McDonald's Big Mac	1.5g
Olive Garden Spinach Artichoke Dip	1.5g
Olive Garden Spaghetti & Meatballs (3)	1.5g
Olive Garden Chicken Marsala	1.5g
Olive Garden Chocolate Brownie Lasagna	1.5g
Olive Garden Sicilian Cheesecake	1.5g
<b>IHOP Black Angus Kid's Cheeseburger</b>	<b>1.5g</b>
California Pizza Kitchen West Coast Burger	1.5g
California Pizza Kitchen Curly Mac & Cheese	1.5g
Chick-Fil-A sauce (8 oz.)	1.5g
Dunkin Donuts Butter Pecan Swirl Frozen Coffee (large)	1.5g
Dunkin Donuts Cake Batter Swirl Frozen Coffee (large)	1.5g
Dunkin Donuts French Vanilla Swirl Frozen Coffee (large)	1.5g

Shake Shack Chocolate Shake	1.5g
Shake Shack Chocolate Cookies & Cream Shake	1.5g
Applebee's Neighborhood Chicken Nachos	1.5g
Applebee's Tomato Basil Soup	1.5g
Big Boy ¼ lb. Cheeseburger	1.5g
<b>Big Boy Kid's Big Boy Burger</b>	<b>1.5g</b>
Big Boy Patty Melt	1.5g
<b>Corner Bakery Café Kid's Mac &amp; Cheese</b>	<b>1.5g</b>
Boston Market Meatloaf Meal	1.5g
Boston Market Meatloaf Mac & Cheese Bowl	1.5g
Great Harvest Bread Apple Cinnamon	
Chip Cream Cheese Scone	1.5g
Little Caesar's Italian Cheese Bread (10 bread sticks)	1.5g
Red Robin Chocolate Milkshake (Monster Size)	1.5g
Red Robin Vanilla Milkshake (Monster Size)	1.5g
Red Robin Strawberry Milkshake (Monster Size)	1.5g
Red Robin Black & Bleu Burger	1.5g
Red Robin Smoke & Pepper Burger	1.5g
Red Robin The Master Cheeseburger	1.5g
Hooter's Onion Ring Tower	1.5g
Hooter's Caramel Fudge Cheesecake	1.5g
Hooter's Cheese Quesadilla	1.5g
Hooter's Chicken Taco Salad	1.5g
<b>Hooter's Kid's Burger</b>	<b>1.5g</b>
Buca di Beppo Tiramisu	1.5g
Logan's Roadhouse Cinnamon Apples	1.5g
Maggiano's Little Italy Crispy Zucchini Fritte	1.5g
Maggiano's Little Italy Four Cheese Ravioli	1.5g

Maggiano's Little Italy	
Spaghetti & Meatballs with Meat Sauce	1.5g
Maggiano's Little Italy Chicken & Spinach Manicotti	1.5g
Maggiano's Little Italy Lobster Carbonara	1.5g
Maggiano's Little Italy	
Linguine & Clams with White Sauce	1.5g
Maggiano's Little Italy NY Style Cheesecake	1.5g
<b>Texas Roadhouse Kid's Hot Dog</b>	<b>1.5g</b>
Shoney's Patty Melt	1.5g
On The Border Mexican Grill Carne Asada	1.5g
On The Border Mexican Grill Fajita Steak Quesadilla	1.5g
On The Border Mexican Grill Stacked Nachos	1.5g
Bojangles Steak Biscuit	1.5g
Bojangles Seasoned Fries (medium)	1.5g
Carrabba's Italian Grill Lasagna	1.5g
Carrabba's Italian Grill	
Gluten-Free Spaghetti & Meatballs	1.5g
Carrabba's Italian Grill Eggplant Parmesan	1.5g
Black Bear Diner Patty Melt (small)	1.5g
Black Bear Diner New England Clam Chowder	1.5g
Wawa Cheeseburger Dinner Salad	1.5g
<b>Yard House Kid's Mac &amp; Cheese</b>	<b>1.5g</b>
Yard House Classic Sliders & Fries	1.5g
Famous Dave's Burnt Ends with Onion Strings	1.5g
Famous Dave's Chili	1.5g
Uno Pizzeria Awesome Chocolate Cake	1.5g
Romano's Macaroni Grill Spinach & Artichoke Dip	1.5g
Romano's Macaroni Grill Braised Lamb Shank	1.5g



Romano's Macaroni Grill Buttermilk Mashed Potatoes	1.5g
Romano's Macaroni Grill Mushroom Ravioli	1.5g
Romano's Macaroni Grill Decadent Chocolate Cake	1.5g
Romano's Macaroni Grill Tiramisu	1.5g
Romano's Macaroni Grill NY Style Cheesecake	1.5g

### **Romano's Macaroni Grill Kid's**

#### **Grilled Chicken & Mashed Potatoes 1.5g**

Romano's Macaroni Grill

The Old Spaghetti Factory Chicken Picatta	1.5g
The Old Spaghetti Factory	
Spinach Tortellini with Alfredo Sauce	1.5g
Cracker Barrel Stuffed Cheesecake Pancake Breakfast	1.5g
Bahama Breeze Buttermilk Fried Chicken	1.5g
Bahama Breeze Skillet-Simmered Jerk Shrimp	1.5g
Bahama Breeze Crab & Three Cheese Dip	1.5g
La Madeleine Tomato Basil Soup (bowl)	1.5g
Beef O Brady's Chicken Nachos	1.5g
Beef O Brady's Steak Nachos	1.5g
Beef O Brady's Queso Dip & Chips	1.5g
Eastside Mario's Spaghetti & Meatballs	1.5g
Eastside Mario's Grilled Chicken Milano	1.5g
Eastside Mario's Spaghetti Primavera with Goat Cheese	1.5g
Cold Stone Creamery Amaretto Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Apple Cinnamon Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Butter Pecan Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Chocolate Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Cinnamon Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Coconut Ice Cream (12 oz.)	1.5g

Cold Stone Creamery Coffee Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Dark Chocolate Ice Cream (12 oz.)	1.5g
Cold Stone Creamery French Vanilla Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Mint Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Mocha Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Pistachio Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Pumpkin Bread	
Batter Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Rum Raisin Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Strawberry	
Cake Batter Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Vanilla Bean Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Chocolate Devotion Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Coffee Lovers Only Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Oreo Overload Ice Cream (12 oz.)	1.5g
Cold Stone Creamery Peanut Butter	
Cup Perfection Ice Cream (12 oz.)	1.5g
The Cheesecake Factory Baked Potato Soup (cup)	1.5g
The Cheesecake Factory Cauliflower Crust Spinach & Mushroom Flatbread Pizza	1.5g
The Cheesecake Factory Cream of Broccoli Soup (bowl)	1.5g
Culver's Cookie Dough Concrete Mixer (medium)	1.5g
Culver's Chocolate Frozen Custard (1 pint)	1.5g
Culver's Vanilla Shake (medium)	1.5g
Culver's Banana Split (3 scoops)	1.5g
Culver's Chocolate Concrete Mixer with Oreos (medium)	1.2g
Culver's Chocolate Concrete Mixer with Reese's Peanut Butter Cups (medium)	1.2g

Cold Stone Creamery Banana Ice Cream (12 oz.)	1g
Cold Stone Creamery Banana	
Batter Ice Cream	1g
Cold Stone Creamery Black Cherry Ice Cream (12 oz.)	1g
Cold Stone Creamery Butterscotch Pudding Ice Cream (12 oz.)	1g
Cold Stone Creamery Cake Batter Ice Cream (12 oz.)	1g
Cold Stone Creamery Cheesecake Ice Cream (12 oz.)	1g
Cold Stone Creamery Banana Split Decision (12 oz.)	1g
Au Bon Pain Baked Potato Soup (large)	1g
La Madeleine Crepe Romanoff	1g
La Madeleine Country Potato Soup (bowl)	1g
La Madeleine Cream of Mushroom Soup (bowl)	1g
Famous Dave's Loaded Baked Potato	1g
<b>Famous Dave's Kid's Cheeseburger</b>	<b>1g</b>
Red Robin Towering Onion Rings	1g
Red Robin Arctic Fish & Chips	1g
Red Robin Cheesy Bacon Fondue	1g
Red Robin Clucks & Fries	1g
Red Robin Teriyaki Chicken Sandwich	1g
Red Robin Whiskey River BBQ Chicken Sandwich	1g
Red Robin Mountain High Mudd Pie	1g
Red Robin Mighty Caesar Salad	1g
Bar Louie Chocolate Cake	1g
Black Bear Diner Mikey's Chicken Pot Pie	1g
Cold Stone Creamery Oh Fudge Shake (12 oz.)	1g
Cold Stone Creamery Reese's Chocolate	
Peanut Butter Dream Shake (12 oz.)	1g
Cold Stone Creamery Very Vanilla Shake (12 oz.)	1g

Oberweis Birthday Cake Ice Cream (2 scoops)	1g
Oberweis Black Cherry Ice Cream (2 scoops)	1g
Oberweis Chocolate Ice Cream (2 scoops)	1g
Oberweis Cookie Dough Ice Cream (2 scoops)	1g
Oberweis Cookies & Cream Ice Cream (2 scoops)	1g
Oberweis Dark Chocolate	
Sea Salt Caramel Ice Cream (2 scoops)	1g
Oberweis Strawberry Ice Cream (2 scoops)	1g
Oberweis Vanilla Ice Cream (2 scoops)	1g
Beef O Brady's Basket of Fries with Queso	1g
Beef O Brady's Fried Mozzarella	1g
TGI Fridays Sizzling Queso	1g
TGI Fridays Caesar Salad with Beyond Meat	1g
TGI Fridays Donut Cheesecake	1g
<b>TGI Fridays Kid's Sliders</b>	<b>1g</b>
California Pizza Kitchen Fusilli Pasta with Alfredo	1g
<b>California Pizza Kitchen Kid's Sundae</b>	<b>1g</b>
California Pizza Kitchen Butter Cake	1g
California Pizza Kitchen Thin Crust BBQ Chicken Pizza	1g
California Pizza Kitchen Chicken Tequila Fettuccine	1g
<b>Yard House Kid's Pepperoni Pizza</b>	<b>1g</b>
<b>Yard House Kid's Cheeseburger</b>	<b>1g</b>
Yard House Bread Pudding with Crème Anglaise	1g
Yard House Mini Cheesecake Brulé	1g
Yard House Onion Ring Tower	1g
Yard House Fried Chicken Tenders & Fries	1g
Yard House Boneless Buffalo Wings	1g
Yard House BBQ Chicken Salad	1g

Captain D's French Fries	1g
Captain D's Batter Dipped Fish (1 piece)	1g
<b>Captain D's Kid's Popcorn Shrimp</b>	<b>1g</b>
On The Border Mexican Grill Veggie Quesadilla	1g
Graeter's Toffee Chocolate Chip Ice Cream (2/3 cup)	1g
Graeter's Lemon Ginger Ice Cream (2/3 cup)	1g
Graeter's Key Lime Pie Ice Cream (2/3 cup)	1g
Logan's Roadhouse Enormous Nachos	1g
Logan's Roadhouse Big Ole Cheesecake	1g
Logan's Roadhouse Sweet Potato Fries	1g
Logan's Roadhouse Mashed Potatoes	1g
Logan's Roadhouse Crispy Crab Cakes	1g
Logan's Roadhouse Southern Fried Fish with Tartar Sauce	1g
Outback Steakhouse Aussie Fries	1g
Outback Steakhouse Carrot Cake	1g
Outback Steakhouse Chocolate Tower	1g
Outback Steakhouse Kid's Chicken Fingers	1g
Great Harvest Bread Blueberry Cream Cheese Scone	1g
Great Harvest Bread Cherry Cream Cheese Scone	1g
Great Harvest Bread Maple Oatmeal Scone	1g
Great Harvest Bread Mixed Berry Cream Cheese Scone	1g
Great Harvest Bread Peach Cream Cheese Scone	1g
Great Harvest Bread Raspberry Cream Cheese Scone	1g
Great Harvest Bread Rhubarb Cream Cheese Scone	1g
Great Harvest Bread Apple Spice Muffin	1g
Honeydew Donuts Avocado Chicken Sandwich	1g
La Madeleine Crème Brûlée Cheesecake (1 slice)	1g
Big Boy Dinner Chili Mac	1g

Big Boy Chili (cup)	1g
Denny's Philly Cheesesteak Omelet	1g
Denny's The Grand Slamwich with Hash Browns	1g
Denny's NY Style Cheesecake	1g
Sbarro Garlic Cheesy Bread	1g
Papa John's Parmesan Crusted Philly Cheesesteak Papadia	1g
Papa John's Grilled Buffalo Chicken Papadia	1g
Papa John's Meatball Pepperoni Papadia	1g
Papa John's Italian Papadia	1g
Papa John's Cinnamon Pullaparts	1g
Wendy's French Fries (large)	1g
Smashburger Chicken Tenders (5 piece)	1g
Smashburger Colorado Crispy Chicken Sandwich	1g
Smashburger Colorado Grilled Chicken Sandwich	1g
Smashburger Sweet Potato Fries	1g
Shake Shack Single Shack Burger	1g
Shake Shack Double Down Fries	1g
Whataburger Jalapeno & Cheeseburger	1g
Whataburger Bacon & Cheeseburger	1g
Whataburger Avocado Bacon Cheeseburger	1g
Rally's All American Cheeseburger	1g
Wendy's Hamburger	1g
McDonald's McChicken	1g
Five Guys Hamburger Patty	1g
Five Guys Hot Dog	1g
Five Guys Fries (large)	1g
<b>Burger King Kid's Junior Whopper with Cheese</b>	<b>1g</b>

Jack in the Box Hamburger	1g
In & Out Burger Double	1g
Little Caesar's Five Meat Feast Pizza (2 slices)	1g
Papa John's Meatball Pepperoni Papadia	1g
Pizza Hut Pepperoni Lover's Large Pizza (2 slices)	1g
Sbarro's NY Pepperoni Pizza (1 slice)	1g
Jack in the Box Junior Bacon Cheeseburger	1g
Jack in the Box Sourdough Ultimate Cheeseburger	1g
Popeye's ¼ lb. Popcorn Shrimp	1g
Popeye's Butterfly Shrimp (4 piece)	1g
Cracker Barrel Pot Roast Supper	1g
Uno Pizzeria Mac & Cheese	1g
Qdoba Chicken Queso Bowl	1g
Qdoba Chicken Queso Burrito	1g
Chick-Fil-A Cookies & Cream Milkshake	1g
Chick-Fil-A Chocolate Milkshake	1g
Chick-Fil-A Vanilla Milkshake	1g
In & Out Burger Double Stack	1g
In & Out Burger Chocolate Shake	1g
In & Out Burger Vanilla Shake	1g
In & Out Burger Strawberry Shake	1g
Sonic Sausage, Egg & Cheese Burrito	1g
White Castle Double Original Slider	1g
White Castle Mozzarella Sticks (10 piece)	1g
Panera Lobster Flatbread Pizza	1g
Panera Lobster Mac & Cheese (small)	1g
Carl's Jr Breakfast Burger	1g
Carl's Jr Beef Taco Salad	1g

Arby's Curly Fries (large)	1g
Arby's Classic French Dip & Swiss Sandwich	1g
Arby's White Cheddar Mac & Cheese	1g
Arby's Roast Beef Gyro	1g
Arby's Smokehouse Brisket Sandwich	1g
Arby's Classic Beef & Cheddar Sandwich	1g
Arby's Popcorn Chicken (large)	1g
Arby's Ham, Egg & Cheese Wrap	1g
Arby's Sausage, Egg & Cheese Wrap	1g
Applebee's Garlic Parmesan Boneless Wings	1g
Applebee's Brew Pub Loaded Waffle Fries	1g
Applebee's Chicken Quesadilla	1g
Applebee's Mozzarella Sticks	1g
Applebee's Caesar Salad with Shrimp	1g
Applebee's Caesar Salad with Chicken	1g
Applebee's Crispy Chicken Tender Salad	1g
Applebee's Grilled Chicken Salad	1g
Applebee's Oriental Chicken Salad	1g
McDonald's Oreo McFlurry (12 oz.)	1g
McDonald's M & M McFlurry (12 oz.)	1g
McDonald's Steak, Egg & Cheese Bagel	1g
Boston Market Creamed Spinach	1g
Boston Market Meatloaf	1g
Del Taco Beef & Loaded Nachos (large)	1g
Del Taco Breakfast Egg & Cheese Wrap	1g
Haagen-Dazs Vanilla Ice Cream (2/3 cup)	1g
Haagen-Dazs Coffee Ice Cream (2/3 cup)	1g
Haagen-Dazs Green Tea Ice Cream (2/3 cup)	1g



Texas Roadhouse Cheese Fries (regular)	1g
Texas Roadhouse Red Chili (bowl)	1g
Texas Roadhouse Caesar Salad	1g
Texas Roadhouse Country Fried Sirloin with Gravy	1g
Applebee's Four Cheese Mac & Cheese with	
Honey Pepper Chicken Tenders	1g
Applebee's Blue Ribbon Brownie	1g
Applebee's Sizzlin' Butter Pecan Blondie	1g
Applebee's Baked Potato	1g
<b>Applebee's Kid's Cheeseburger</b>	<b>1g</b>
<b>Applebee's Kid's Grilled Chicken Alfredo</b>	<b>1g</b>
<b>Applebee's Kid's Oreo Cookie Shake</b>	<b>1g</b>
Applebee's Chocolate Shake	1g
Applebee's Strawberry Shake	1g
Applebee's Vanilla Shake	1g
Ben & Jerry Vanilla Ice Cream (2/3 cup)	1g
Red Lobster Artichoke Lobster & Seafood Dip	1g
Red Lobster Langostino & Lobster Pizza	1g
Red Lobster Seafood Stuffed Mushrooms	1g
Red Lobster Bisque (bowl)	1g
Red Lobster New England Clam Chowder (bowl)	1g
Red Lobster Baja Shrimp Bowl	1g
Red Lobster Bar Harbor Lobster Bake	1g
Red Lobster Linguini	1g
Red Lobster Nashville Hot Chicken	1g
Red Lobster Seafarer's Feast	1g
Red Lobster Brownie Overboard	1g
Red Lobster Chocolate Wave	1g

Panera Pepperoni Flatbread Pizza	1g
Panera Steak & White Cheddar Panini	1g
Panera Four Cheese Souffle	1g
Panera Spinach & Artichoke Souffle	1g
The Cheesecake Factory Butternut Squash Soup (cup)	1g
The Cheesecake Factory Cheese Flatbread	1g
The Cheesecake Factory Pepperoni Flatbread	1g
The Cheesecake Factory Cauliflower Crust Cheese Flatbread	1g
The Cheesecake Factory Cobb Salad	1g
The Cheesecake Factory Loaded Baked Potato Tots	1g
The Cheesecake Factory Veggie Burger	1g
The Cheesecake Factory Turkey Burger	1g
Dunn Brothers Cinnamon Twist	1g
P. F. Chang's Crispy Green Beans	1g
P. F. Chang's Dynamite Shrimp	1g
P. F. Chang's Crab Wontons (6)	1g
P. F. Chang's Peking Duck	1g
P. F. Chang's Crispy Honey Chicken	1g
P. F. Chang's Crispy Honey Shrimp	1g
P. F. Chang's Salt & Pepper Prawns	1g
P. F. Chang's Sweet & Sour Chicken	1g
P. F. Chang's Stir-Fried Eggplant	1g
P. F. Chang's Orange Chicken	1g
P. F. Chang's Chocolate Souffle	1g
P. F. Chang's Gluten-Free Chocolate Souffle	1g
Hardee's Loaded Breakfast Burrito	1g
Hardee's Ham Sunrise Croissant	1g

Great Harvest Bread Almond Poppy Seed	
Cream Cheese Scone	1g
Great Harvest Bread Apple Cream Cheese Scone	1g
Great Harvest Bread Chocolate Chip Brownie	1g
Great Harvest Bread Salted Caramel Brownie	1g
Great Harvest Bread Turtle Brownie	1g
Great Harvest Bread Mud Bar	1g
Great Harvest Bread Chocolate Mint Cookie	1g
Great Harvest Bread Apple Spice Muffin	1g
Great Harvest Bread Rhubarb Streusel Muffin	1g
Dairy Queen Snickers Blizzard (medium)	1g
Dairy Queen Reese's Blizzard (medium)	1g
Dairy Queen Oreo Dirt Pie Blizzard (medium)	1g
Dairy Queen M & M Blizzard (medium)	1g
Dairy Queen Heath Blizzard (medium)	1g
Dairy Queen Butterfinger Blizzard (medium)	1g
Dairy Queen Choco Brownie Extreme Blizzard (medium)	1g
Dairy Queen Chocolate Chip Cookie Dough Blizzard (medium)	1g
Dairy Queen Girl Scout Thin Mints Cookie Blizzard (medium)	1g
Hooter's Onion Rings	1g
Hooter's Chili Cheese Fries	1g
Hooter's Caesar Salad	1g
Hooter's Breaded Wings (20 piece)	1g
<b>Hooter's Kid's Hot Dog</b>	<b>1g</b>
Hooter's Chocolate Mousse Cake	1g
Hooter's Beer Cheese & Pretzels	1g
Hooter's Crab Cakes	1g
Hooter's Fish & Chips	1g

Hooter's Fried Jalapenos	1g
Hooter's Fried Pickles	1g
Twin Peaks Three Cheese Mac & Cheese	1g
Shoney's Tomato Bisque (1/2 cup)	1g
Longhorn Steakhouse Garlic "Butter"	1g
Logan's Roadhouse Country Style Buttermilk	
Chicken with White Gravy	1g
Logan's Roadhouse Loaded Potato Skins	1g
Texas Roadhouse Cheese Fries (small)	1g
Texas Roadhouse Caesar Salad	1g
Texas Roadhouse House Salad	1g
Texas Roadhouse Country Fried Sirloin	1g
Wawa Baked Potato Soup (medium)	1g
Wawa Chili (medium)	1g
Bojangles Bo's Chicken Sandwich	1g
Bojangles Chicken Breast	1g
Bojangles Homestyle Tenders	1g
Bojangles Mac & Cheese	1g
The Old Spaghetti Factory Garlic Shrimp Fettuccine	1g
The Old Spaghetti Factory Crab Ravioli	1g
The Old Spaghetti Factory White Clam Sauce	1g
The Old Spaghetti Factory Pesto Chicken Penne	1g
Carrabba's Italian Grill Meatballs & Ricotta	1g
Maggiano's Little Italy Caesar Salad (entrée salad)	1g
Maggiano's Little Italy Chopped Salad (entrée salad)	1g
Maggiano's Little Italy Fettuccine Alfredo with Chicken	1g
Maggiano's Little Italy Gnocchi Tomato Vodka	1g
Maggiano's Little Italy Eggplant Parmesan	1g

Maggiano's Little Italy Chicken Marsala	1g
Maggiano's Little Italy Tiramisu	1g
Maggiano's Little Italy Vanilla Bean Ice Cream	1g
Maggiano's Little Italy Truffle Bites (12 piece)	1g
Romano's Macaroni Grill Signature Mac & Cheese Bites	1g
Romano's Macaroni Grill Lobster Bisque	1g
<b>Romano's Macaroni Grill Kid's</b>	
<b>Buttered Noodles &amp; Parmesan</b>	<b>1g</b>
<b>Romano's Macaroni Grill Kid's Mac &amp; Cheese</b>	<b>1g</b>
Buca di Beppo Chicken Limone	1g
<b>Buca di Beppo Kid's Chicken Parmigiana</b>	<b>1g</b>
Golden Corral ¼ lb. Cheeseburger	1g
Golden Corral Hot Dog	1g
Golden Corral Meatloaf	1g
Golden Corral Patty Melt	1g
Golden Corral Buffalo Fried Chicken	1g
Eastside Mario's Four Cheese Spinach Dip with Crostini	1g
Eastside Mario's Calamari Fritti	1g
Eastside Mario's Garlic Parmesan	
Chicken Wings with Blue Cheese Dressing	1g
Eastside Mario's Shrimp Scampi	1g
Eastside Mario's Chicken Parmesan Sliders	1g
Eastside Mario's Pan Roasted Tilapia	1g
Eastside Mario's Veal Limone	1g
Eastside Mario's Ultimate Italian Grilled Cheese	1g
Eastside Mario's Crispy Chicken Club Wrap	1g
Eastside Mario's Bruschetta Flatbread	1g
Bahama Breeze Rebecca's Key Lime Pie	1g

Bahama Breeze Seafood Paella	1g
Bahama Breeze Beef Empanadas	1g
Bahama Breeze Chicken Tostones	1g
Bahama Breeze Buffalo Chicken Wings	1g
Bahama Breeze Yuca Cheese Sticks	1g
Bahama Breeze Salmon Tostada Salad	1g
Bahama Breeze Chicken Tostada Salad	1g
Bahama Breeze Pineapple Cheesecake Empanada	1g
<b>Bahama Breeze Kid's Burger Sliders</b>	<b>1g</b>
Culver's Chocolate Ice Cream Waffle Cone (2 scoops)	1g
Culver's Vanilla Ice Cream Waffle Cone (2 scoops)	1g
Culver's Wisconsin Big Cheese Pub Burger (single)	1g
Culver's Chocolate Shake (medium)	1g
Culver's Peanut Butter Shake (medium)	1g
Culver's Chili	1g
Culver's Coleslaw (large)	0.8g
Little Caesar's Deep Dish	
Ultimate Supreme Pizza (2 slices)	0.8g
Little Caesar's Deep Dish	
Three Meat Treat Pizza (2 slices)	0.8g
Culver's Root Beer Float (large)	0.7g
Culver's Cheese Curds (medium)	0.7g
The Old Spaghetti Factory Garlic Fries	0.7g
Popeye's Homestyle Mac & Cheese	0.7g
<b>Logan's Roadhouse Kid's Broccoli</b>	<b>0.7g</b>
Logan's Roadhouse Mozzarella Sticks	0.65g
Logan's Roadhouse Yeast Roll	0.60g
Au Bon Pain Clam Chowder (large)	0.5g

Au Bon Pain Ham & Cheese Croissant	0.5g
Au Bon Pain Cinnamon Swirl Roll Croissant	0.5g
Au Bon Pain Three Cheese Stuffed Croissant	0.5g
The Old Spaghetti Factory Spinach & Artichoke Dip	0.5g
The Old Spaghetti Factory Clam Chowder	0.5g
Hooter's Chocolate Mousse Cake	0.5g
Hooter's Garden Salad	0.5g
Shoney's Carrot Raisin Salad	0.5g
<b>Carrabba's Italian Grill Kid's Mac &amp; Cheese</b>	<b>0.5g</b>
Great Harvest Bread Blondie	0.5g
Great Harvest Bread Cinnamon Roll	
With Cream Cheese Frosting	0.5g
Great Harvest Bread Peanut Butter Cookie	0.5g
Great Harvest Bread Lemon Bar	
Great Harvest Bread Oatmeal Raisin Cookie	0.5g
Great Harvest Bread Sugar Cookie with Frosting	0.5g
Red Lobster Crab Stuffed Shrimp Rangoon	0.5g
Red Lobster Classic Caesar Salad	0.5g
Red Lobster Crunch Fried Flounder Sandwich	0.5g
Red Lobster Fish & Chips	0.5g
Red Lobster Ultimate Feast	0.5g
Red Lobster Vanilla Bean Cheesecake	0.5g
Maggiano's Little Italy Italian Wedding Soup (bowl)	0.5g
Cracker Barrel Blue Cheese Dressing (2.5 oz.)	0.5g
Graeter's Butter Pecan Ice Cream (2/3 cup)	0.5g
Graeter's Cookies & Cream Ice Cream (2/3 cup)	0.5g
Graeter's Chocolate Brownie Ice Cream (2/3 cup)	0.5g
The Cheesecake Factory Crispy Brussels Sprouts	0.5g

The Cheesecake Factory Crispy Crab Wontons	0.5g
The Cheesecake Factory Clam Chowder (cup)	0.5g
The Cheesecake Factory Tossed Green Salad with Balsamic Vinaigrette	0.5g
The Cheesecake Factory Greek Salad	0.5g
The Cheesecake Factory Chopped Salad	0.5g
The Cheesecake Factory Vegan Cobb Salad	0.5g
Culver's Butter Burger (single)	0.5g
Eastside Mario's Mozzarella Sticks	0.5g
Eastside Mario's Calamari Al Diavolo	0.5g
<b>Eastside Mario's Kid's Cheesy Alfredo Pasta</b>	<b>0.5g</b>
<b>Eastside Mario's Mini Kid's Sliders</b>	<b>0.5g</b>
Boston Market Chicken Caesar Salad	0.5g
Boston Market Chicken Pot Pie	0.5g
Boston Market Carrot Cake (1 slice)	0.5g
Culver's North Atlantic Cod Dinner (3 piece)	0.5g
Buca di Beppo World Famous Meatball	0.5g
Buca di Beppo Bruschetta	0.5g
Buca di Beppo Fettuccine Alfredo	0.5g
Buca di Beppo Spaghetti & Meatballs	0.5g
Bahama Breeze Grilled Chicken Breast	0.5g
Bahama Breeze Crispy Chicken Tenders	0.5g
<b>Bahama Breeze Kid's Broccoli</b>	<b>0.5g</b>
<b>Bahama Breeze Kid's Bowtie Mac &amp; Cheese</b>	<b>0.5g</b>
Applebee's Triple Chocolate Meltdown	0.5g
Applebee's Homestyle Cheesy Broccoli	0.5g
Krispy Kreme Cookies & Kreme Shake (16 oz.)	0.5g
Krispy Kreme Chocolate Iced Shake (16 oz.)	0.5g



Longhorn Steakhouse Ranch Dressing (3 oz.)	0.5g
Longhorn Steakhouse Molten Lava Cake	0.5g
Longhorn Steakhouse Strawberries & Cream Cheesecake	0.5g
Applebee's Fish & Chips	0.5g
Applebee's Spinach & Artichoke Dip	0.5g
Applebee's White Queso Dip & Chips	0.5g
Taco Bell Cheesy Double Beef Burrito	0.5g
Taco Bell Beef Quesarito	0.5g
Ben & Jerry Brownie Batter Core Ice Cream (2/3 cup)	0.5g
Ben & Jerry Peanut Butter Core Ice Cream (2/3 cup)	0.5g
Ben & Jerry Cherry Garcia Ice Cream (2/3 cup)	0.5g
Ben & Jerry Chocolate Fudge Brownie Ice Cream (2/3 cup)	0.5g
Ben & Jerry Strawberry Cheesecake Ice Cream (2/3 cup)	0.5g
Red Robin Fried Pickle Nickels	0.5g
Red Robin Red's Bold Bone In Wings (plain)	0.5g
Red Robin Pretzel Bites	0.5g
Red Robin Root Beer Float	0.5g
<b>Red Robin Kid's Chocolate Milkshake</b>	<b>0.5g</b>
<b>Red Robin Kid's Vanilla Milkshake</b>	<b>0.5g</b>
Red Robin Strawberry Milkshake	0.5g
<b>Red Robin Kid's Sundae</b>	<b>0.5g</b>
Red Robin Impossible Burger	0.5g
Red Robin Garlic Fries	0.5g
Red Robin Mayonnaise (1 oz.)	0.5g
Red Robin Ranch Sauce	0.5g
Red Robin Red's Secret Tavern Sauce	0.5g
Red Robin Roasted Garlic Aioli	0.5g
Starbucks Mocha Cookie Crumble Frappuccino (16 oz.)	0.5g

Starbucks Caramel Ribbon Crunch Frappuccino (16 oz.)	0.5g
Starbucks Espresso Frappuccino (16 oz.)	0.5g
Starbucks Chocolate Chip Cookie (1 cookie)	0.5g
Starbucks Ham & Swiss Croissant (1 croissant)	0.5g
Starbucks Almond Croissant (1 croissant)	0.5g
Starbucks Cinnamon Coffee Cake (1 slice)	0.5g
Starbucks Iced Lemon Loaf (1 slice)	0.5g
Starbucks Cheese Danish (1 danish)	0.5g
Golden Corral Country Style Steak	0.5g
Haagen-Dazs Chocolate Ice Cream (2/3 cup)	0.5g
Haagen-Dazs Strawberry Ice Cream (2/3 cup)	0.5g
Haagen-Dazs Chocolate Peanut Butter Ice Cream (2/3 cup)	0.5g
Haagen-Dazs Dulce de Leche Caramel Ice Cream (2/3 cup)	0.5g
Haagen-Dazs Butter Pecan Ice Cream (2/3 cup)	0.5g
Haagen-Dazs Rum Raisin Ice Cream (2/3 cup)	0.5g
Haagen-Dazs Pistachio Ice Cream (2/3 cup)	0.5g
Haagen-Dazs Rocky Road Ice Cream (2/3 cup)	0.5g
Haagen-Dazs Double Belgian Chocolate Chip Ice Cream (2/3 cup)	0.5g
Haagen-Dazs Cookies & Cream Ice Cream (2/3 cup)	0.5g
Haagen-Dazs Irish Cream Brownie Ice Cream (2/3 cup)	0.5g
California Pizza Kitchen Avocado Club Egg Rolls	0.5g
Carl's Jr. Strawberry Swirl Cheesecake	0.5g
Uno Pizzeria Broccoli & Cheddar Soup	0.5g
Uno Pizzeria Italian Chopped Salad	0.5g
Uno Pizzeria Rattlesnake Pasta	0.5g
Uno Pizzeria Chicken & Broccoli Alfredo	0.5g
Uno Pizzeria Chicken Parmesan Sandwich	0.5g
Panera Broccoli Cheddar Mac & Cheese (small)	0.5g

Panera Mac & Cheese (small)	0.5g
Panera Cheese Flatbread Pizza	0.5g
Panera Blueberry Scone	0.5g
Panera Chocolate Croissant	0.5g
Panera Orange Scone	0.5g
Panera Chicken Caesar Salad	0.5g
Arby's Roast Chicken Club Wrap	0.5g
Arby's Chocolate Shake (medium)	0.5g
Arby's Jamocha Shake (medium)	0.5g
Arby's Vanilla Shake (medium)	0.5g
McDonald's Cheeseburger	0.5g
McDonald's Hot Chocolate (medium)	0.5g
Chick-Fil-A Hash Brown Scramble Bowl	0.5g
Chick-Fil-A Strawberry Milkshake	0.5g
Chick-Fil-A Peach Milkshake	0.5g
Chick-Fil-A Garden Salad Tray	0.5g
Shake Shack Grilled Cheese	0.5g
<b>Qdoba Kid's Beef Taco</b>	<b>0.5g</b>
Qdoba Three Cheese Queso (4 oz.)	0.5g
Chipotle Chips & Queso (large)	0.5g
In & Out Burger Cheeseburger	0.5g
Romano's Macaroni Grill Caprese Salad	0.5g
Romano's Macaroni Grill Tomato Basil Soup	0.5g
Romano's Macaroni Grill Italian Chopped Salad	0.5g
Romano's Macaroni Grill Chicken Marsala	0.5g
<b>Romano's Macaroni Grill Kid's</b>	
<b>Fettuccine Alfredo</b>	<b>0.5g</b>
Domino's Cheeseburger Pizza (2 slices)	0.5g

<b>Texas Roadhouse Kid's Mini Cheeseburgers</b>	<b>0.5g</b>
Popeye's Cajun Fries	0.5g
Popeye's Chicken Tenders (2 piece)	0.5g
Arby's Bacon, Egg & Cheese Wrap	0.5g
Wendy's Chicken Club	0.5g
Wendy's Junior Cheeseburger	0.5g
Wendy's Sausage, Egg & Cheese Biscuit	0.5g
McDonald's Hamburger	0.5g
<b>Sonic Kid's Junior Hamburger</b>	<b>0.5g</b>
White Castle Hamburger	0.5g
Dairy Queen Homestyle Burger	0.5g
IHOP Grilled Buttermilk Biscuit	0.5g
<b>Twin Peaks Kid's Cheese Quesadilla</b>	<b>0.5g</b>
P. F. Chang's Tempura Calamari	0.5g
P. F. Chang's Fire Braised Short Ribs	0.5g
P. F. Chang's Short Rib Fried Rice	0.5g
Sonic Onion Rings (large)	0.5g
Sonic Mozzarella Sticks	0.5g
<b>Burger King Kid's Cheeseburger</b>	<b>0.5g</b>

Remember, these numbers may have changed as more fast food restaurant move to eliminate trans-fat from their menu. However, who really knows if their menu items say 0g but in reality, they may or may not be in the 0.5g trans-fat grey zone. A quick tip is when you see "Partially Hydrogenated Oil" or "Fully Hydrogenated Oil," it has trans-fat. When the label says "0g trans-fat," then you know that you have found a labeling lie in action.

Overall, fat is your friend. Our bodies require fat to absorb fat soluble vitamins (A, D, E & K).

\*Conjugated linoleic acid (CLA) is a healthy anti-inflammatory trans-fat that is naturally occurring in grass-fed meat and dairy.

Man-made trans-fat from hydrogenated fats is a metabolic toxin.

In addition, these foods are in the grey zone of less than 0.50g of trans-fat. I would advise that you don't eat the following foods:

- |   |   |
|---|---|
| -Peanut Butter with "hydrogenated oils"                           | -Girl Scout Cookies                       |
| -Post Fruity Pebbles  | -Popcorn (Pop Secret, Herr's & Frito-Lay) |
| -Post Cocoa Pebbles   | -Animal Crackers (Nabisco & Stauffer's)   |
| -General Mills Basic 4  | -Ritz Crackers                            |
| - Kellogg's Rice Krispies Treats Cereal                           | -Nabisco Fig Newtons                      |
| - Kellogg's Froot Loops   | -Fortune Cookies                          |
| -Post Oreo O's  | -Crisco                                   |
| - Kellogg's Corn Pops   | -Margarine                                |
| - Kellogg's Honey Smacks  | -Cakes & Cake Frosting                    |
| - Kellogg's Smorz   | -Pies                                     |
| - Kellogg's Eggo Maple Syrup Cereal                               | -Pancakes & Waffles                       |
| - Kellogg's Mini Swirlz Cinnamon Bun                              | -Biscuits & Cinnamon Rolls                |
| -Post Waffle Crisp  | -Coffee Creamers                          |
| -Quaker Oats Chewy Granola Bars                                   | -Frozen TV Dinners                        |
| -Nabisco Premium Saltine Crackers                                 | -Cookies                                  |
| -Keebler's Zesta Saltine Crackers                                 | -Pudding                                  |
| -Special K's Protein Snack Bars,<br>Protein Meal Bars, Bliss Bars |   |

### High Fructose Corn Syrup

- a major cause of U. S. obesity
- toxic to the liver
- increases inflammation
- disrupts insulin levels
- creates harmful oxidative stress (unpaired electrons aka free radicals)

This one is a no-brainer. Skip the fizzy pops and drink water. Who wants to eat highly processed high fructose corn syrup?

## Food Coloring

- found in fruit cocktail cherries, ice cream, candy, red velvet cake, mint jelly and cereals
- leads to lower IQs
- responsible for hormonal dysfunction
- can cause bladder cancer

Please avoid any food that has Blue 1, 2, Red 3, Green 3 and Yellow 5, 6.

## Aspartame

- a carcinogenic neurotoxin since 1965
- an artificial, chemical sweetener that can cause migraine headaches, dizziness, rashes, hallucinations, seizures, cancer and excessive weight gain.

*“In 1983, The U.S. FDA increases the Acceptable Daily Intake (ADI) for aspartame to 50 mg per kg of body weight per day. **That means a 150 lb. adult can safely consume 20 (12 oz.) diet sodas, DAILY, over a LIFETIME.**”*

Well of course they recommend that we drink their aspartame sodas because they are likely getting a kickback. Ever notice that Big Pharma essentially owns the TV networks with their endless ads always with happy senior citizens?

**Who in their right minds will want to drink 20 (12 oz.) diet sodas everyday forever??**

They say that it can prevent tooth decay, manage our weight, and manage diabetes. However, when they are asked if aspartame is a danger or a risk, they run around the question citing the rare disease, phenylketonuria (PKU). Well, what about the rest of society?

In addition to avoid harmful food additives, we have to remember that there has been a medical monopoly that has spanned over 70 years to limit and eliminate naturopathic competition. This dates all the way back to 1910 with the infamous Flexner Report. Abraham Flexner was appointed by John D. Rockefeller to roam the U.S. and “evaluate” the curriculums of medical schools. Rockefeller just had to get total control over petroleum, chemicals and pharmaceuticals (derived from crude oil).

He decided that his company, Standard Oil of New Jersey, had to get a majority interest in the German drug company, I.G. Farben. With the help of Andrew Carnegie and J. P. Morgan (destroying the public schools and our monetary system apparently wasn’t enough), they wiped out any medical school who wouldn’t bend to their will.

Flexner submitted his report titled *“Medical Education in the United States and Canada.”* On page 22: *“the privileges of the medical school can no longer be open to casual strollers from the highway. It is necessary to install a doorkeeper who will, by critical scrutiny, ascertain the fitness of the applicant, a necessity suggested, in the first place, but consideration for the candidate, whose time and talents will serve him better in some other vocation, if he be unfit for this, and in the second, by consideration for a public entitled to protection from those whom the very boldness of modern medical strategy equips with instruments that, tremendously effective for good when rightly used, are all the more terrible for harm if ignorantly or incompetently employed”.*

The American Medical Association (AMA) became the doorkeeper. They became the authoritative power to certify or de-certify any medical school who didn't toe the line if they didn't use allopathic approved medicines. After they became the doorkeeper, the number of medical schools went from 160 in 1906 (before the Flexner Report) to 85 in 1920 and then down to 69 schools in 1944.

Naturopathic physicians who used alternative treatments were labeled as quacks and charlatans. Relentless campaigns of misinformation, fraud, deception and suppression of alternative treatments soon followed. The rest is history. Walk into any medical school today and they are still run by Rockefeller-influenced medicine. Debt, death and deception that is drunk on power from the mountains of prescription drugs that are ruining the lives of many Americans (i.e., treating the symptoms and not curing the patient). Don't forget all of the endless Big Pharma commercials where magically everyone looks happy, and they throw up the long list of side effects.....

The medical-drug cartel was summed up by J.W Hodge, M.D., of Niagara Falls, N.Y., in these words: *‘The medical monopoly or medical trust, euphemistically called the American Medical Association, is not merely the meanest monopoly ever organized, but the most arrogant, dangerous and despotic organization which ever managed a free people in this or any other age. Any and all methods of healing the sick by means of safe, simple and natural remedies are sure to be assailed and denounced by the arrogant leaders of the AMA doctors' trust as fakes, frauds and humbugs. Every practitioner of the healing art who does not ally himself with the medical trust is denounced as a 'dangerous quack' and impostor by the predatory trust doctors. Every sanitarian who attempts to restore the sick to a state of health by natural means without resort to the knife or poisonous drugs, disease imparting serums, deadly toxins or vaccines, is at once pounced upon by these medical tyrants and fanatics, bitterly denounced, vilified and persecuted to the fullest extent.'*

The foundation of Modern Allopathic Medicine is based on Luis Pasteur's *Germ Theory*, a flawed concept. A disease condition is viewed by the orthodoxy as an isolated event, confined to the area in which it manifests itself (an ear infection, lung cancer, skin cancer, etc.).

Under this theory, microbes or tumors indiscriminately grow in the patient and must be cut (surgery), burned (radiation), or poisoned (drugs) out of the body. The solution is sought through mechanical and chemical means.

Doctors tend to ignore the WHY and rush for the quick fix of drugs to answer the patient's problem since they are not in the business of curing their patients.

A contemporary of Pasteur, Antoine Bechamp, had a different opinion as to why disease conditions 'took hold'. Bechamp felt that the environment, or the ecology of the blood played the critical role in deciding whether disease conditions would manifest or not. It's not just a blanket statement of every illness is simply genetic, but rather more often it is epigenetic-the environment plays a major role in turning on and off specific genes that can lead to disease.

Alternative medicine explores the stressors (environmental, biological, chemical, psychological, and emotional) in a patient's life that cause a *weakening* of a particular energy field; which in turn allows the manifestation of a disease condition in a weakened area.

In order to maintain a state of health, all energy systems within the body need to exist in a state of balance or equilibrium. Imbalance leads to conditions of discomfort (dis-ease) which eventually spirals into ill health if not corrected. Ayurvedic medicine had worked all of this out thousands of years ago.

Modern Allopathic Medicine utilizes poisons (drugs) in non-lethal dosages in order to suppress symptoms in an affected area. This approach neither addresses the cause of the disease condition, nor is it responsible for healing the patient.

Rather, the use of drugs often will mask the outer manifestations of the malady, while at the same time, drive the disease deeper into the body...only to reappear at a later date, as a more serious, and chronic health threat.

One of the many flaws of the orthodox approach is that it focuses on the disease condition itself, rather than the patient. The term holistic originally sprang up to distinguish those physicians whose diagnostic gestalt considers all of the physical, emotional, and spiritual energies interacting with the patient.

Sadly, there has been a deceptive agenda laid out by big pharmaceutical companies and organized medicine to suppress any and every alternative, non-drug therapy that works. Why?

More treatments = more money

Curing patients is not a profitable endeavor. Perpetually sick patients racks in more profits for the Big Pharma system.

Managing patients means routine office visits and renewing of drug prescriptions. Therefore, a manageable patient is a continuing source of income; a cash cow. Multiply that by a few hundred million people and you get an idea why this deceit is being put upon you. The profits from the so called "health-care" industry are staggering!

The thrust of the big pharmaceutical agenda is to provide temporary relief, while never addressing the cause of the disease condition.



This agenda ensures regular visits to the doctor's office and requires the patient to routinely return to the pharmacy to refill his prescriptions. This is what the game is all about folks, plain and simple.

The patient's immune system and the immune system alone is responsible for healing and recovery from ill health. The use of drugs and “vaccines” represents an assault on the immune system.

Newsflash, we can't inject our way to better health. The body requires vitamins and minerals to grow and maintain. Choking down pharmaceutical drugs will not improve your health.

In some cases, the use of a particular drug might be a wise choice to speed healing and recovery for the patient, but the use of natural, orthomolecular therapies and substances (substances normally found in Nature) that can more effectively address the cause of the disease should be considered first because natural substances work in *harmony with Nature*. They aid and stimulate the body to truly cure itself, without the terrible millstone of drug side-effects.

### **The human body is self-healing and self-regulating.**

It would behoove all of us to pay attention to what we eat. After all, we are what we eat (and absorb). It drives people crazy that I am not a fan of the “keto cult.” There are so many healthy foods to choose from. I am also not a fan of the allopathic medical industrial complex that is quick to say that many health issues are simply genetic.

If you do what you have always done (like your unhealthy relatives), then you will get a similar outcome. However, as successful people have broken the cycle of poverty, we can also break the cycle of chronic diseases. The top three causes of death in the US: heart disease, cancer and MEDICAL ERRORS.

Everyone has a unique metabolism so one plan does not fit all. I realize that eating the right foods, taking vitamin and mineral supplements, doesn't equate to curing DIS-EASES or any ailments.

But it doesn't hurt to put in the effort to try to prevent health issues down the road. (Big Pharma doesn't make their outrageous profits if you actually take care of your health. Who wants to do that?)

Imagine an individual who eats the right foods, gets proper sleep, exercises and SOAKS UP THE SUNSHINE. No wonder they enjoy great health. You know your body better than government agencies (American Murder Association, Fraud & Drug Association). They are a bunch of clowns. Common sense is not present in these government agencies.

Eating should be a fun experience, not the daily chore that it is made out to be. If you can avoid GMOs, alcohol, food additives, candy, fizzy pop, energy drinks (green radioactive horse piss) and fast food slop from the drive thru windows, you are on the right track to taking charge of your health.

Food quality will always trump food quantity.

In this book, we will take a very deep dive into Macronutrients, Vitamins, Minerals, Antioxidants and what foods to look for to get your key nutrients in your life. To preserve my sanity, I will NOT list the Recommended Daily Allowances (RDA) percentages since they are not accurate for everyone.

Use your own judgment as to how much of a nutrient that you need. Originally, RDAs were set in place as a guideline, not to be set in stone, and it was a measuring point to prevent nutritional deficiencies, barely.

What about organic foods?

People always ask me what foods they should eat. Often, the topic of organic foods pops up too. It really depends. There is no current information available that shows that organic foods are nutritionally superior to conventional foods.

However, this may change in the future. Get a lab test to compare organic and conventional foods to make up your own mind. Observe and verify.

To a chemist, organic refers to a substance with carbon, hydrogen and oxygen. This would mean that all foods are organic! In modern times, organic has been used to describe plant foods that are grown without synthetic pesticides and animal foods raised without antibiotics and growth hormones.

In December 1997, the USDA releases their 1<sup>st</sup> proposal for organic food standards.

In October 2002, the USDA stated that organic animals must be raised on organic feed.

In February 2003, Congress passed on agricultural bill allowing organic livestock to be fed non-organic feed when the price of organic feed is twice the price of conventional feed while keeping their “organic” standard.

For higher omega-3 levels, it is better to choose grass-fed and grass-finished beef and pasture raised meats (pork, chicken, etc.). Grass-fed meats are leaner compared to conventional meats.

In 2004, there was an amendment made to an appropriations bill that allows organic foods to contain synthetic ingredients:

“100% organic” is one single ingredient such as a fruit, vegetable, meat, etc. (excluding water and salt).

“Organic” can refer to multiple ingredients that are 95-100% organic.

“Made with organic ingredients” is based on 70% of the ingredients are organic.

“Contains organic ingredients” has less than 70% of the ingredients are organic.

In 2015, the USDA sent out an update:

“100% organic” refers to a product with certified organic ingredients and processed with an organic method.

All food is processed, even organic food.

“Organic” means that a product has certified organic ingredients and may include up to 5% of non-organic ingredients (excluding water and salt) that are specified on the National List of Allowed & Prohibited Substances.

“Made with organic ingredients” means that a product has at least 70% certified organic ingredients.

For example, let’s say that if you buy organic potatoes (sprayed with organic pesticides 5 times) and you also bought conventional potatoes (sprayed with conventional pesticides once), which one is a better buy?

There is a HUGE MYTH that still lingers today: naïve people believe that organic produce have no pesticides. This is not true. The pesticide question comes into play. Organic “natural” pesticides can be just as toxic as conventional synthetic pesticides. In a perfect world, we would use no pesticides.

The less chemicals, the better.

I agree that organic growing practices, such as using compost, is an easy, sustainable practice along with adding in wood ashes (huge source of minerals) back into your garden.

If you can grow your own food, that is the way to go.

If you are not able to grow your own food, go to your local farmer’s market. Get to know your farmers. Keep in mind that some organic farms do not use any pesticides, some do. Ask them!

Thin-skin foods are better in the organic form since they tend to have a higher pesticide residue on conventional crops on average (spinach, strawberries, grapes).

Thick-skin foods (watermelon, oranges, avocados) may be a better choice to buy conventional to save some money. For me, it comes down to personal preference.

Here is another example:

Let’s say you want to buy organic beef. It’s not a bad product per se. However, every cow grazes on pasture. Conventional beef are “finished” on corn or grain to fatten them up in the last 3 months before harvesting.

This destroys the Omega-3 fatty acid profile and is heavily skewed on the Omega-6 side. Conventional beef can lead to terrible inflammation, and it is not a good addition to your diet.

Grass-fed and grass-finished beef is amazing since it is much higher in Omega-3, and it has an anti-inflammatory effect in the body. It is leaner with a bolder, beefier flavor.

In the U.S., less than 3% of all beef is grass-fed and grass-finished while the rest is commercial grain-finished beef. In Australia and New Zealand, ALL OF THEIR BEEF IS GRASS-FED AND GRASS-FINISHED.

Once again, America has it all wrong.

For the organic beef, the cows are fed organic grain instead of grass in the latter stages of their life. This equates to less Omega-3 but it's organic. In this case, the grass-fed and grass-finished beef from your local farmer would be superior.

For all we know, the USDA organic label may be nothing more than a marketing scheme to extract more dollars out of the hipster juice cults in the big cities. Is the certified organic label all marketing? I will let you decide.

If you really want to dig deeper, ask your local farmers about pesticides and their growing practices. Visit their farms! Often, you will find many "beyond organic" farmers in the middle lane: they are better than conventional farms and they cannot afford the outrageous organic certification fees.

Who really wants to deal with an annoying Karen from the USDA with a clipboard barking orders at you on your farm!

Nutritional Nirvana 2<sup>nd</sup> Edition features an extensive nutritional analysis of a vast array of foods: meats, seafood, dairy, fruits, vegetables, fats, etc. We have to know what we are eating.

My goal with this book is to help you make better decisions with your nutrition plan.

No other book in history has addressed the complete nutritional story from Vitamin A to Zinc in foods.

Until now....

## Macronutrients

For an average 150 lb. man or woman, 19-50, each day the recommended daily allowance is:

Calories 2,000-3,000

Total Fat 65-78g

Saturated Fat 20-25g

Omega-3 & Omega-6 1,100-1,300mg\*

Cholesterol 300mg

Carbs 275-300g\*\*

Fiber 25-28g

Protein 60g+

## Vitamins

Vitamin A (retinol) 1,500-3,000 mcg

Vitamin B1 (thiamine) 50-100mg

Vitamin B2 (riboflavin) 15-50mg

Vitamin B3 (niacin) 15-50mg

Vitamin B5 (pantothenic acid) 50-100mg

Vitamin B6 (pyridoxine) 50-100mg

Vitamin B7 (biotin) 400-800mcg

Vitamin B9 (folate) 400-800mcg

Vitamin B12 (cobalamin) 200-400mcg

Vitamin C (ascorbic acid) 1,000-3,000mg

Choline 50-200mg

Vitamin D3 (cholecalciferol) 25mcg

Vitamin E (d-alpha-tocopherol) 134mg

Vitamin K 120mcg

## Minerals

Calcium 1,500-2,000mg

Copper 2-3mg

Iodine 100-225mcg

Iron 18-30mg

Magnesium 750-1,000mg

Manganese 3-10mg

Phosphorus 1,250mg

Potassium 4,700mg

Selenium 100-200mcg

Sodium 2,300mg

Zinc 30-50mg

## Essential Amino Acids

Histidine 952mg

Isoleucine 1,292mg

Leucine 2,856mg

Lysine 2,584mg

Methionine 1,292mg

Phenylalanine 2,244mg

Threonine 1,360mg

Tryptophan 340mg

Valine 1,632mg

## Miscellaneous

CoQ10 100-200mg

ORAC 10,000+ points

\*The key here is that omegas 3 and 6 are both important. Shoot for a 1:1 ratio. Many people eat too many foods high in Omega 6 and not enough Omega 3. It is all about keeping the body in a state of Nutritional Nirvana-or a state of equilibrium.

Cook with saturated fats: butter, ghee, lard, bacon fat, coconut oil.

Stay away from the trans fats from hydrogenated vegetable oils (shortening) and the fatty plastic margarine. Ignorance is not bliss. What you don't know will hurt your health.

When you buy meats, butter and dairy, look for grass-fed, grass-finished and pasture raised to ensure that you are consuming foods with higher levels of omega-3 as they anti-inflammatory effects on the body.

**GRASS-FED, GRASS-FINISHED RED MEAT IS YOUR FRIEND!**

\*\*This one is up for debate. Carbs and fiber are a matter of personal preference. Some people can get away with zero carbs and zero fiber (carnivores), some people can get away with a high amount, vegans and some people are in the middle. (There are also people who live on air alone.) You are responsible for your health and well-being.

Keep in mind that all food is processed in some way. Often, foods are processed so that they are easier to digest. For me, I cannot eat raw broccoli. It just tears my stomach to shreds. However, when I lightly cook it, the broccoli is much more palatable and easier to digest. Different strokes for different folks.

Actual nutrient requirements will always vary based on age, gender, activity level, medical history, etc. This is a general guide to what nutrients that you need each day to prevent any nutritional deficiencies.

The funny part is that the topic of nutritional deficiencies is rarely discussed in the mainstream media even though they are a major part of many diseases. According to Dr. Joel Wallach, in his flagship book, *Dead Doctor's Don't Lie*, over 900 health issues fall under several categories: hard tissue problems (calcium deficiency), soft tissue problems (cholesterol and or essential fatty acid deficiency), blood sugar problems and digestive problems.

His research led to a very simple conclusion: genetic diseases are really nutritional deficiencies in disguise. Soil erosion, industrial mono crop farming, food processing and limited dietary options all contribute to the rise of nutritional deficiencies.

Nutritional deficiencies affect around 2 billion people which can lead to an increased risk for infections, terrible illnesses and death! Who is at risk for a nutritional deficiency?

-pregnant women (Vitamin B6, Folate, Iron, Vitamin D)

-children and teenagers (Vitamin D)

-people with darker skin (Vitamin D)

-older adults (Vitamin B12, Vitamin D, Zinc)

- patients with fat malabsorption syndromes (Vitamin A, D, E, K)
- alcoholics (Vitamin A, B Vitamins)
- smokers (Vitamin C, Vitamin E)
- vegans, vegetarians (Vitamin B12, Vitamin D, Calcium)

Which substances cause nutritional deficiencies?

Alcohol	Aspirin
(Magnesium, Vitamins B, C, D, E & K)	(B Vitamins, Calcium, Iron, Potassium, Vitamins A & C)
Antacids	Caffeine
(B Vitamins, Calcium, Vitamins A & D)	(Biotin, Potassium, Thiamine, Zinc)
Antibiotics	Diuretics
(B Vitamins, Vitamin K, friendly bacteria)	(Calcium, Iodine, Magnesium, Potassium, Riboflavin, Vitamin C, Zinc)
Antihistamines	Fluoride (Vitamin C)
(Vitamin C)	Laxatives (Potassium, Vitamins A & K)
	Tobacco (Vitamins A, C & E)

We are what we absorb. A food may have 100mg of a specific nutrient. Your body may only absorb 80%. It would be safe to say that you may need a little more of this specific nutrient. As you age, the body, on average, absorbs less nutrients. Just think back to all of the poor medical advice from the past: eat low fat and low cholesterol.

I wonder why so many health issues stemmed from this bad advice. Fat and cholesterol is essential for life. There is no real point in severely limiting any nutrients. Bad dietary advice is the equivalent of trying to build a brick house with only a few bricks.

You need all of the necessary materials to build the brick house (and also for a healthy body). I would also advise that we not live and die by the nutritional label as many are inaccurate or have an average margin of error of 10%.

Who in their conscious minds knows what amount of nutrients that our body absorbs? No one knows and every day we are playing nutritional Russian roulette with our foods. However, every food that we consume has consequences, some good and some bad. The right foods in the right amounts at the right time.

I don't buy into the silly notion of everything in moderation. This is a very outdated nutritional strategy. We don't need diet sodas, fried foods, alcohol, MSG, etc.

Let's dive even deeper. Digestion is an ongoing chemical process where enzymes break down nutrients into smaller parts. This is a very condensed summary of our digestive process:

1. It all starts in the mouth. As we chew food, it is mixed with saliva. At this point, it is known as bolus.

2. Food moves down through the esophagus.

3. The liver makes bile to help with the digestion of fats. (Bile is stored in the gallbladder.)

4. Once food reaches the stomach; it is mixed with acidic gastric juices. Stomach pH is between 1.5-3.5. We need an acidic stomach to break down our food properly.

(Blood pH is 7.35-7.4.) Don't buy into the scam that is the alkalize everything movement.

5. The pancreas goes to work with enzymes to digest big nutrients.

6. Food is mixed with enzymes and bile in the small intestine. They are absorbed through the walls of the digestive tract, a 30 foot long tube, before the nutrients enter the bloodstream.

7. The large intestine consists of the colon and the rectum. Once food hits the colon, water reabsorbs out of the food. Feces is stored in the rectum until it is eliminated. Digestion can take up to 36 hours to complete. Let's dive even deeper.

### Calories

A calorie (kilocalorie) is the amount of energy used to heat up 1 kg of water by one degree Celsius. How many calories do we need? It will depend on the person. Usually, the more active you are, the more calories that you can metabolize. On average, 2,000 to 3,000 calories per day.

Our bodies break down fat, protein and carbohydrates and converts them into adenosine triphosphate (ATP). ATP is the energy within that feeds our cells. ATP is created at will whenever the body requires it. It is our metabolic money that gets deposited and withdrawn from our bank (cells). Magnesium activates the key enzymes for neurons to produce energy from glucose. Calorie conservation was critical in past civilizations but now it is a worldwide calorie explosion.

### Fats

Fats are naturally occurring substances that are essential to life. We need fat and we do not need big pharma drugs. Fats are made from glycerol and fatty acids.



Fats are categorized into several groups:

### Saturated Fats

Saturated Fats are fat molecules without double carbon bonds. We need saturated fat to help regulate cholesterol levels. Saturated fats are very useful for the proper absorption of fat-soluble vitamins (A, D, E, K). We need saturated fats to properly incorporate calcium into our bones. In addition, saturated fat is crucial for maintaining a strong liver and lungs. Last, but not least, your brain is made from saturated fat and cholesterol! Let's not forget about all of the years of low-fat and low-cholesterol propaganda that has plagued so many people. Take the statins since I'm your doctor. Get a new doctor folks and eat saturated fat.

Stick to butter, ghee, bacon fat, lard, beef tallow and coconut oil from organic, grass-fed and pasture-raised sources.

The best sources of Saturated Fats:

Coconut Oil	1 Tbsp.	12g	Duck Breast*	4 oz.	3.3g
Lamb, ground*	4 oz.	9.2g	Peanut Butter	2 Tbsp.	3g
Bacon*	2 oz.	8g	Beef Ribeye*	4 oz.	2.7g
Butter	1 Tbsp.	7.3g	Cashews	1 oz.	2.6g
Beef, ground*	4 oz.	7.3g	Bison Ribeye*	4 oz.	2.5g
Cornish Game Hen*	4 oz.	5.7g	Swordfish*	4 oz.	2.20g
Cheddar cheese	1 oz.	5.3g	Ostrich, ground*	4 oz.	2.03g
Lard	1 Tbsp.	5g	Eggs*	1 large	2g
Avocado	1 cup	4.9g	Olive Oil	1 Tbsp.	1.9g
Elk, ground*	4 oz.	4.5g	Caribou*	4 oz.	1.9g
Venison, ground*	4 oz.	4.5g	Catfish*	4 oz.	1.9g
Whole Milk	8 fl. oz.	4.5g	Walnuts	1 oz.	1.7g
Chicken Thighs*	4 oz.	4.5g	Pistachios	1 oz.	1.7g
Bison, ground*	4 oz.	4g	Wild Boar*	4 oz.	1.5g
Bear*	4 oz.	4g	Sunflower Oil	1 Tbsp.	1.4g
Yak, ground*	4 oz.	3.5g	Grapeseed Oil	1 Tbsp.	1.3g
Macadamia Nuts	1 oz.	3.4g	Hazelnuts	1 oz.	1.3g
Herring*	4 oz.	3.4g	Whitefish*	4 oz.	1.3g

Sunflower Seeds	1 oz.	1.3g
Almonds	1 oz.	1.1g
Salmon*	4 oz.	1.1g
Goat*	4 oz.	1g

Kalamata Olives	1 oz.	0.9g
Sesame Seeds	1 Tbsp.	0.6g
Lobster*	4 oz.	0.2g
*cooked		

### Monounsaturated Fats

Monounsaturated Fats are fat molecules with one unsaturated carbon bond in the molecule.

-decreases LDL cholesterol

-may speed up weight loss

-reduces the risk of heart disease

-lowers blood pressure

-eases arthritis pain

-lowers the risk of breast cancer

The best sources of Monounsaturated Fats:

Avocado	1 cup	22.5g
Macadamia Nuts	1 oz.	16.8g
Hazelnuts	1 oz.	12.94g
Wild goose*	4 oz.	11.57g
Bacon*	2 oz.	10.81g
Olive Oil	1 Tbsp.	10.34g
Lamb, ground*	4 oz.	9.43g
Cornish Game Hen*	4 oz.	8.99g
Almonds	1 oz.	8.94g
Beef, ground*	4 oz.	8.50g
Cashews	1 oz.	7.82g
Chicken Thighs*	4 oz.	7.30g
Pistachios	1 oz.	7.03g

Herring*	4 oz.	6.97g
Peanut Butter	2 Tbsp.	6.63g
Bear*	4 oz.	6.41g
Pheasant*	4 oz.	6.35g
Duck Breast*	4 oz.	6.15g
Lard	1 Tbsp.	5.77g
Quail*	4 oz.	5.52g
Sunflower Seeds	1 oz.	5.25g
Beef ribeye*	4 oz.	5.06g
Swordfish*	4 oz.	4.01g
Bison, ground*	4 oz.	3.73g
Catfish*	4 oz.	3.67g
Elk, ground*	4 oz.	3.12g

Beefalo*	4 oz.	3.03g	Scallops*	4 oz.	1.81g
Butter	1 Tbsp.	2.98g	Sesame Seeds	1 Tbsp.	1.68g
Whitefish*	4 oz.	2.90g	Goat*	4 oz.	1.53g
Eggs*	1 large	2.84g	Caribou*	4 oz.	1.50g
Sunflower Oil	1 Tbsp.	2.73g	Smelt*	4 oz.	0.93g
Cheddar cheese	1 oz.	2.66g	Dover sole*	4 oz.	0.91g
Walnuts	1 oz.	2.53g	Coconut Oil	1 Tbsp.	0.88g
Bison ribeye*	4 oz.	2.51g	Flounder*	4 oz.	0.76g
Ostrich, ground*	4 oz.	2.44g	Tilapia*	4 oz.	0.71g
Emu, ground*	4 oz.	2.21g	Sea Bass*	4 oz.	0.60g
Grapeseed Oil	1 Tbsp.	2.19g	Grouper*	4 oz.	0.30g
Venison, ground*	4 oz.	2.19g	Lobster*	4 oz.	0.28g
Wild Salmon*	4 oz.	2.11g	*cooked		
Wild Boar*	4 oz.	1.93g			

### Polyunsaturated Fats

Polyunsaturated Fats are fat molecules with two or more unsaturated carbon bonds in the molecule. Polyunsaturated fats come in the form of Omega 3 and Omega 6.

### Omega-3

Alpha linoleic acid (ALA), Eicosatetraenoic acid (EPA) and Docosahexaenoic acid (DHA).

Omega-3 fatty acids are critical Polyunsaturated fats that reduce inflammation, hydrates the cell membranes, protects the heart, manages cholesterol levels, lowers blood pressure and improves blood sugar levels in the body. The best sources of Omega-3:

Flax seeds, ground	1 oz.	7,400mg	Walnuts	1 oz.	2,594mg
Flaxseed oil	1 Tbsp.	7,258mg	Anchovies, canned	4 oz.	2,349mg
Chia seeds	1 oz.	5,100mg	Herring*	4 oz.	2,250mg
Mackerel*	4 oz.	2,721mg	Sardines, canned	4 oz.	2,178mg
Hemp seeds	1 oz.	2,610mg	Whitefish*	4 oz.	2,060mg

Wild salmon*	4 oz.	1,933mg	Avocado oil	2 Tbsp.	273mg
Herring, pickled	4 oz.	1,890mg	Scallops*	1 cup	240mg
Bluefin tuna*	4 oz.	1,880mg	Ground mustard	1 Tbsp.	239mg
Canola oil	1 Tbsp.	1,279mg	Fontina cheese	1 oz.	224mg
Swordfish*	4 oz.	1,210mg	Cod*	4 oz.	249mg
Trout*	4 oz.	1,206mg	Olive oil	2 Tbsp.	217mg
Caviar	1 Tbsp.	1,049mg	Chicken breast*	4 oz.	214mg
Smelt*	4 oz.	1,030mg	Bacon*	4 oz.	210mg
Sea Bass*	4 oz.	960mg	Shrimp*	4 oz.	198mg
Oysters*	4 oz.	810mg	Tilapia*	4 oz.	190mg
Halibut*	4 oz.	755mg	Haddock*	4 oz.	190mg
Lamb tallow	1 oz.	657mg	Beef tallow	1 oz.	171mg
Pollock*	4 oz.	650mg	Pike*	4 oz.	170mg
Lobster*	4 oz.	603mg	Mahi Mahi*	4 oz.	170mg
Lamb ribs*	4 oz.	521mg	Spinach*	1 cup	160mg
Walleye*	4 oz.	510mg	Rabbit*	4 oz.	158mg
Dover sole*	4 oz.	500mg	Chicken liver*	4 oz.	158mg
Clams*	4 oz.	476mg	Wild rice*	1 cup	156mg
Rockfish*	4 oz.	420mg	Eggs *	2 large	154mg
Ghee	1 oz.	404mg	Scallops*	4 oz.	150mg
Perch*	4 oz.	400mg	Chicken, thigh meat*	4 oz.	135mg
Turkey fat	1 oz.	400mg	Catfish*	4 oz.	130mg
King crab*	4 oz.	431mg	Whole milk, raw	8 fl. oz.	120mg
Cheddar cheese	4 oz.	412mg	Sesame seeds	1 oz.	107mg
Flounder*	4 oz.	390mg	Duck eggs*	1 large	100mg
Grouper*	4 oz.	300mg	Caribou*	4 oz.	100mg
Lard	1 oz.	285mg	Lamb*	4 oz.	113mg
Pecans	1 oz.	281mg	Venison*	4 oz.	113mg

Bison*	4 oz.	98mg	Orange Roughy*	4 oz.	40mg
Beef*	4 oz.	94mg	Pine nuts	1 oz.	32mg
Sesame oil	1 oz.	85mg	Sunflower seeds	1 oz.	22mg
Bear*	4 oz.	80mg	Turkey breast*	4 oz.	22mg
Pistachios	1 oz.	72mg	Dark chocolate	1 oz.	10mg
Ostrich*	4 oz.	79mg	Cloves, ground	1 tsp.	10mg
Duck breast*	4 oz.	67mg	Oregano, dried	1 tsp.	10mg
Cornish game hen*	4 oz.	60mg	*cooked		
Macadamia nuts	1 oz.	58mg			
Cream cheese	1 oz.	50mg			
Quail*	4 oz.	50mg			
Pumpkin seeds	1 oz.	47mg			
Cashews	1 oz.	46mg			
Parmesan	2 Tbsp.	42mg			

### Omega 6

Omega 6 fatty acids are also known as Polyunsaturated fats that are part of the Essential Fatty Acids. Omega 6 is very helpful for maintaining overall health.

- slows the growth of cancerous tumors
- reduces the risk of cardiovascular disease
- fights inflammation
- lowers triglycerides
- reduces appetite and body fat
- improves overall muscle tone

The best sources of Omega-6:

Sesame oil	1 oz.	11,801mg	Pine nuts	1 oz.	9,601mg
Walnuts	1 oz.	10,883mg	Hemp seeds	1 oz.	8,610mg
Sunflower seeds	1 oz.	10,682mg	Sesame seeds	1 oz.	7,207mg

Brazil nuts	1 oz.	6,929mg	Lamb tallow	1 oz.	1,571mg
Pecans	1 oz.	6,138mg	Beef tallow	1 oz.	885mg
Turkey fat	1 oz.	6,057mg	Chicken breast*	4 oz.	779mg
Pumpkin seeds	1 oz.	5,772mg	Ghee	1 oz.	628mg
Chicken fat	1 oz.	5,572mg	Duck breast, wild*	4 oz.	576mg
Pepperoni	4 oz.	5,052mg	Grass-fed bison*	4 oz.	474mg
Peanut oil	1 Tbsp.	4,320mg	Chicken liver*	4 oz.	452mg
Peanut butter	2 Tbsp.	4,011mg	Macadamia nuts	1 oz.	370mg
Oats	1 cup	3,955mg	Rabbit*	4 oz.	406mg
Pistachios	1 oz.	3,896mg	Ostrich*	4 oz.	395mg
Avocado	1 cup	3,650mg	Dark chocolate	1 oz.	340mg
Flax seed oil	1 oz.	3,628mg	Whole milk, raw	8 fl. oz.	300mg
Avocado oil	1 oz.	3,580mg	Trout*	4 oz.	253mg
Tahini	1 oz.	3,535mg	Venison*	4 oz.	248mg
Almonds	1 oz.	3,501mg	Lamb*	4 oz.	169mg
Duck fat	1 oz.	3,428mg	Cheddar cheese	1 oz.	159mg
Duck meat*	4 oz.	3,796mg	Goat*	4 oz.	113mg
Lard	1 oz.	2,950mg	Grass-fed beef*	4 oz.	101mg
Turkey*	4 oz.	3,322mg	Bluefin tuna*	4 oz.	76mg
Olive oil	1 oz.	2,789mg	Cloves, ground	1 tsp.	50mg
Hazelnuts	1 oz.	2,403mg	Halibut*	4 oz.	42mg
Cashews	1 oz.	2,223mg	Pork, lean*	4 oz.	11mg
Eggs*	2 large	1,916mg	Lobster*	4 oz.	14mg
Chicken thighs*	4 oz.	2,135mg	King crab*	4 oz.	9mg
Flax seeds	1 oz.	1,688mg	Cod*	4 oz.	9mg
Chia seeds	1 oz.	1,652mg	*cooked		

## Cholesterol

Cholesterol is a waxy steroid that is used to fight infections, produce bile and disable toxins. Cholesterol heals the body. Our bodies make up to 3,000mg of cholesterol every day! The majority of the myelin sheath, the protective layer around the brain, is made from fat and cholesterol! When we consume cholesterol-rich foods, this allows our bodies to make less cholesterol.

Let's shout it from the rooftops, cholesterol is healthy!

Do you enjoy having fun in the bedroom? Great, you can thank cholesterol for your performance. Cholesterol is used to manufacture sex hormones, estrogen and progesterone in women and testosterone in men.

Cholesterol is also used in Vitamin D synthesis when sunlight hits our skin.

Cholesterol is the body's fire department. Fire fighters do not start fires, they put them out. They go out to put out the fire. Cholesterol helps to repair inflamed tissue (inflammation).

It will not clog arteries either. Advanced inflammation can lead to an over-abundance of polyunsaturated fats that lead to the formation of plaque in the arteries.

Inflammation is the real cause of heart disease. Dr. Natasha Campbell-McBride is famous for her words on fats and cholesterol:

*"For millennia, possibly for millions of years humankind has prized fatty foods. People travelled long distances to obtain animal fat and considered it "a sacred food".*

*Fatty cuts of meat, fish and shellfish, eggs, cream and butter were reserved for the most important members of the tribe or the family: for their leaders, for the warriors going into battle, for couples who were trying to conceive, for growing children, for wise elders, and for those recovering from an illness.*

*This ancient wisdom was passed through generations until the last few decades, when the infamous diet-heart hypothesis was born. At the time it was a tentative idea that maybe heart disease had something to do with dietary fats. As there was no other idea around, the authorities picked it up as a working hypothesis.*

*A hypothesis is not 'the truth' until the science has proven it. More than fifty years have passed since then, and **THE SCIENCE HAS SPOKEN: THE DIET-HEART HYPOTHESIS IS FALSE! NATURAL ANIMAL FATS AND CHOLESTEROL-RICH FOODS DO NOT CAUSE HEART DISEASE, THEY HAVE NOTHING TO DO WITH IT; IN FACT, THEY PREVENT IT!***

She also points us that disease starts in the gut. What a revelation...

Cholesterol is essential for optimal health. Cholesterol is in every single cell. We need it to grow, for hormones (estrogen, testosterone, etc.) and to help synthesize Vitamin D. You must wonder why there are so many cholesterol-lowering drug commercials on the boob tube.

Big pharma has been making billions of dollars of blood money profit to lower your cholesterol. Remember, prescription drugs do not “cure” dis-ease, they merely treat the symptoms, until your body breaks down to a fragile state and you just die. No wonder why I avoid all drugs...

The best sources of cholesterol:

Lamb liver*	4 oz.	558mg	Lamb, ground*	4 oz.	110mg
Beef liver*	4 oz.	446mg	Pepperoni	4 oz.	110mg
Calamari*	4 oz.	294mg	Lamb ribs*	4 oz.	110mg
Kielbasa*	4 oz.	270mg	Mahi Mahi*	4 oz.	107mg
Shrimp*	4 oz.	239mg	Pork tenderloin*	4 oz.	106mg
Pork chop*	4 oz.	177mg	Beef tenderloin*	4 oz.	105mg
Eggs*	1 large	169mg	Pollock*	4 oz.	103mg
Lobster*	4 oz.	165mg	Wild goose*	4 oz.	103mg
Duck Breast*	4 oz.	154mg	Smelt*	4 oz.	102mg
Cornish Game Hen*	4 oz.	147mg	Pheasant*	4 oz.	101mg
Chicken thigh*	4 oz.	144mg	Venison filet*	4 oz.	99mg
Antelope*	4 oz.	143mg	Emu, ground*	4 oz.	99mg
Rabbit*	4 oz.	138mg	Quail*	4 oz.	98mg
Chicken breast*	4 oz.	131mg	Beef, ground*	4 oz.	95mg
Blue crab, canned	4 oz.	131mg	Ostrich, ground*	4 oz.	94mg
Perch*	4 oz.	128mg	Beef ribeye*	4 oz.	91mg
Ham*	4 oz.	126mg	Orange Roughy*	4 oz.	91mg
Walleye*	4 oz.	125mg	Bison ribeye*	4 oz.	90mg
Duck breast*	4 oz.	124mg	Turkey breast*	4 oz.	90mg
Caribou*	4 oz.	124mg	Elk, ground*	4 oz.	88mg
Bacon*	4 oz.	120mg	Moose*	4 oz.	88mg
Oysters*	4 oz.	113mg	Swordfish*	4 oz.	88mg
Skirt steak*	4 oz.	112mg	Wild Boar*	4 oz.	87mg
Venison*	4 oz.	111mg	Whitefish*	4 oz.	87mg
Bear*	4 oz.	111mg	Mackerel*	4 oz.	85mg



Goat*	4 oz.	84mg	Beefalo*	4 oz.	66mg
Herring*	4 oz.	83mg	Flounder*	4 oz.	65mg
Yellowtail*	4 oz.	81mg	Bratwurst*	4 oz.	62mg
Bison, ground*	4 oz.	81mg	Butter	2 Tbsp.	61mg
Catfish*	4 oz.	78mg	Yak, ground*	4 oz.	60mg
Haddock*	4 oz.	77mg	Sea Bass*	4 oz.	59mg
Dover sole*	4 oz.	77mg	Pike*	4 oz.	56mg
Haddock*	4 oz.	77mg	Bluefin tuna*	4 oz.	55mg
Tilapia*	4 oz.	71mg	Grouper*	4 oz.	53mg
Turbot*	4 oz.	70mg	Monkfish*	4 oz.	36mg
Water Buffalo*	4 oz.	69mg	Scallops*	4 oz.	33mg
Rockfish*	4 oz.	69mg	Whole milk, raw	8 fl. oz.	24mg
Wild salmon*	4 oz.	69mg	Parmesan	2 Tbsp.	9mg
Salami	4 oz.	67mg	*cooked		
Swordfish*	4 oz.	66mg			

### Carbohydrates

Carbohydrates are the primary energy source for the body. They offer us a protein sparing effect so that we burn the carbs as fuel and protein gets used for muscle protein synthesis, cellular repair, etc.

Carbohydrates are compounds made from carbon, hydrogen and oxygen. Carbohydrates are classified as simple (monosaccharides, disaccharides and sugar alcohols) and complex (oligosaccharides, polysaccharides and dietary fiber). Simple carbs break down fast while complex carbs are much slower to metabolize.

Currently, there is no such thing as a carbohydrate deficiency since they are not considered essential. Carbohydrates provide energy and building blocks (carbon) to synthesize glycogen, fatty acids and amino acids. They do not seem to have a positive effect on exercise performance under 1 hour, but they do improve exercise performance that lasts over 2 hours. With regards to be physically active, the more carbs the better.

I am a fan of carbohydrates. Remember, they are found naturally in fruits and vegetables, not just starchy foods! You are going to eat carbs and enjoy it. If you need help breaking out of the Keto Cult, email me, I have ideas.

I realize that the members of the Keto Cult will get triggered. Carbohydrates are a tricky subject. They can be useful if you are an active person. However, I do not believe in the infinite wisdom of the food pyramid of 300g carbs/day. It seems rather high. If you have digestive issues, just go gluten-free. A two-month gluten detox. (Gluten can stick around in the body for up to 6 weeks). Start with eliminating bread and pasta.

Remember, worrying all day long about your health is not healthy. Fruits and vegetables contain carbohydrates. If you are concerned about your carbohydrate consumption, stick to low starchy fruits and vegetables.

The best sources of carbohydrates:

Oats	1 cup	55g	Whole wheat bread	2 slices	32g
Brown rice*	1 cup	52g	Apples	1 large	31g
White rice*	1 cup	45g	Banana	1 medium	29g
Chickpeas*	1 cup	45g	Apple juice	8 fl. oz.	28g
Dave's Killer			Grapes	1 cup	27g
Everything Bagels	1 bagel	44g	Chocolate Carnation		
Pinto beans*	1 cup	44g	Instant Breakfast	1 packet	27g
Barley*	1 cup	44g	Mango	1 cup	25g
Coconut, shredded	1 cup	44g	Kiwifruit	1 cup	25g
Black beans*	1 cup	41g	Papaya	1 cup	25g
Sweet potato*	1 cup	41g	Cranberries, dried	1 oz.	24g
Lentils*	1 cup	40g	Green peas*	1 cup	24g
Kidney beans*	1 cup	40g	Cherries	1 cup	24g
Egg noodles*	1 cup	40g	Raisins	1 oz.	22g
Quinoa*	1 cup	39g	Pineapple	1 cup	22g
Spaghetti*	1 cup	38g	Blueberries	1 cup	21g
Grape juice	8 fl. oz.	37g	Medjool dates	1 oz.	21g
Wild rice*	1 cup	35g	Pears	1 cup	21g
Pomegranate	1 cup	33g	Oranges	1 cup	21g
Potatoes*	1 cup	32g	Avocado	1 cup	20g
Granola, homemade	½ cup	32g	Plums	1 cup	19g

Grapefruit	1 cup	19g	Pistachios	1 oz.	8g
Prunes	1 oz.	18g	Sunflower seeds	1 oz.	7g
Raw honey	1 Tbsp.	17g	Peanut butter	2 Tbsp.	7g
Apricots	1 cup	17g	Almond butter	2 Tbsp.	6g
Peaches	1 cup	16g	Hazelnuts	1 oz.	5g
Molasses	1 Tbsp.	15g	Walnuts	1 oz.	4g
Raspberries	1 cup	15g	Pecans	1 oz.	4g
Honeydew	1 cup	15g	Pine nuts	1 oz	4g
Blackberries	1 cup	14g	Pumpkin seeds	1 oz	4g
Nectarines	1 cup	14g	Brazil nuts	1 oz.	3g
Cantaloupe	1 cup	13g	Macadamia nuts	1 oz.	3g
Watermelon	1 cup	12g	Hemp seeds	3 Tbsp.	2g
Strawberries	1 cup	12g	Poppy seeds	1 Tbsp.	2g
Chia seeds	1 oz.	12g	Sesame seeds	1 Tbsp.	2g
Maple syrup	1 Tbsp.	9g	Pili nuts	1 oz.	1g
Cashews	1 oz.	9g	*cooked		
Flax seeds	1 oz.	8g			

### Fiber

Fiber comes from polysaccharides, soluble and insoluble fiber. Insoluble means that it will not be broken down by our digestive system. As a result, insoluble fiber hits the large intestine as is to help bulk up (soften) our stool.

Soluble fiber, sugar and nutrients are broken down (digested) and absorbed in the small intestine. Soluble fiber is also known as a prebiotic.

Soluble and insoluble fiber comes from a wide range of fruits and vegetables.

For many people, fiber seems to be beneficial. For carnivores, fiber may not be necessary for their digestive tract.

Only time will tell. Maybe they are magicians....

The best sources of fiber:

Navy beans*	1 cup	19g	Whole wheat bread	2 slices	4g
Pinto beans*	1 cup	15g	Spinach*	1 cup	4g
Black beans*	1 cup	15g	Savoy cabbage*	1 cup	4g
Lentils*	1 cup	15g	Chia seeds	1 Tbsp.	4g
Kidney beans*	1 cup	14g	Green beans*	1 cup	4g
Chickpeas*	1 cup	13g	Corn*	1 cup	4g
Great northern beans*	1 cup	12g	Potatoes*	1 medium	3g
Black-eyed peas*	1 cup	11g	Orange	1 medium	3g
Avocado	1 cup	10g	Blueberries	1 cup	3g
Raspberries	1 cup	8g	Carrots	1 cup	3g
Oats	1 cup	8g	Almonds	1 oz.	3g
Green peas*	1 cup	8g	Tangerine	1 cup	3g
Blackberries	1 cup	7g	Mandarin orange	1 cup	3g
Sweet potato*	1 cup	6g	Pumpkin, canned	½ cup	3g
Wild blueberries	1 cup	6g	Mushrooms*	1 cup	3g
Popcorn	3 cups	5g	Banana	1 medium	3g
Butternut squash*	1 cup	5g	Sunflower seeds	1 oz.	3g
Pears	1 medium	5g	Red bell pepper	1 cup	3g
Apples	1 large	5g	Barley*	½ cup	3g
Yams*	1 cup	5g	Strawberries	1 cup	3g
Broccoli*	1 cup	5g	Dates	¼ cup	3g
Grapefruit	1 fruit	5g	Cherries	1 cup	2g
Cauliflower*	1 cup	4g	Flax seeds	1 Tbsp.	2g
Carrots*	1 cup	4g	Beets*	1 cup	2g
Collard greens*	1 cup	4g	*cooked		

## Sugar

Smoothie King The Hulk Strawberry Smoothie (medium) 196g

Smoothie King The Hulk Vanilla Smoothie (medium) 150g

Smoothie King Passion Passport Smoothie (medium) 137g

Smoothie King Lemon Twist Smoothie (medium) 131g

Smoothie King The Hulk Chocolate Smoothie (medium) 131g

Smoothie King The Hulk Coffee Smoothie (medium) 131g

Smoothie King Orange X-treme Smoothie (medium) 129g

Smoothie King Caribbean Way Smoothie (medium) 125g

Planet Smoothie Grape Ape Smoothie (medium) 124g

Smoothie King Pineapple Surf Smoothie (medium) 123g

Tropical Smoothie Café Pomegranate Plunge Smoothie 121g

Smoothie King Strawberry Kiwi Breeze Smoothie (medium) 116g

Smoothie King Lemon Twist Banana Smoothie (medium) 113g

Tropical Smoothie Café Blimey Limey Smoothie 113g

**Tropical Smoothie Café Kid's Lil' Lime Berry Smoothie 112g**

Smoothie King Banana Boat Smoothie (medium) 110g

Tropical Smoothie Café Bahama Mama Smoothie 110g

Tropical Smoothie Café Beach Bum Smoothie 109g

Planet Smoothie Mango Passion Smoothie (medium) 109g

Tropical Smoothie Café Peanut Butter Cup Smoothie 108g

Tropical Smoothie Café Lean Machine Smoothie 107g

**Tropical Smoothie Café Kid's Awesome Chocolate Smoothie 105g**

Robek's Especial Acai Bowl 105g

Smoothie King Angel Food Smoothie (medium) 105g

Smoothie King Muscle Punch Smoothie (medium) 105g

Jamba Juice Peanut Butter Moo'd Smoothie (medium) 103g

Tropical Smoothie Café Mocha Madness Smoothie 103g

Tropical Smoothie Café Acai Berry Boost Smoothie 102g  
 Smoothie King Strawberry X-treme Smoothie (medium) 101g  
 Tropical Smoothie Café Avocolada Smoothie 100g  
 Smoothie King Mango Fest Smoothie (medium) 99g  
 Planet Smoothie Captain Kid Smoothie (medium) 98g  
 Smoothie King Tart Cherry X-treme Smoothie (medium) 98g  
 Smoothie King Immune Builder Veggie Superfood Smoothie (medium) 96g  
 Smoothie King Lemon & Ginger Spinach Smoothie (medium) 95g  
 Smoothie King Pure Recharge Mango Strawberry Smoothie (medium) 95g  
 Smoothie King Immune Builder Orange Smoothie (medium) 94g  
 Smoothie King Pure Recharge Pineapple Smoothie (medium) 94g  
 Planet Smoothie Rio Berry Bliss Smoothie (medium) 94g  
 Tropical Smoothie Café Kiwi Quencher Smoothie 94g  
 Tropical Smoothie Café Paradise Point 92g  
 Smoothie King Daily Warrior Smoothie (medium) 92g  
 Jamba Juice White Gummi Smoothie (medium) 91g  
 Robek's P-Nut Power Plus Smoothie (medium) 91g  
 Smoothie King Peanut Power Plus Strawberry Smoothie (medium) 89g  
 Tropical Smoothie Café Island Queen Smoothie 88g  
 Tropical Smoothie Café Sunrise Sunset Smoothie 88g  
 Robek's Tropical Mango Acai Bowl 87g  
 Smoothie King Island Impact Smoothie (medium) 85g  
 Smoothie King Immune Builder Mixed Berry Smoothie (medium) 85g  
 Planet Smoothie Caribbean Citrus Splash Smoothie (medium) 85g  
 Jamba Juice Watermelon Breeze Smoothie (medium) 85g  
 Jamba Juice Mango-A-Go-Go Smoothie (medium) 85g  
 Jamba Juice Orange Dream Machine Smoothie (medium) 85g  
 Smoothie King Veggie Apple Kiwi Kale Smoothie (medium) 83g

Planet Smoothie Vinnie Del Rocco Smoothie (medium) 82g

Smoothie King Berry Punch Smoothie (medium) 82g

Smoothie King Banana Berry Treat Smoothie (medium) 82g

Smoothie King Coffee D-Lite Mocha Smoothie (medium) 82g

Smoothie King Peanut Power Plus Smoothie (medium) 82g

Smoothie King Yogurt D-Lite Smoothie (medium) 81g

Tropical Smoothie Café Mango Magic Smoothie 81g

Smoothie King Peanut Power Plus Chocolate Smoothie (medium) 80g

Crush Orange 20 fl. oz. 80g

Jamba Juice Matcha Green Tea Blast Smoothie (medium) 79g

Planet Smoothie The Last Mango Smoothie (medium) 78g

Smoothie King Stretch & Flex Tart Cherry Smoothie (medium) 77g

Mountain Dew 20 fl. oz. 76g

Jamba Juice Peanut Butter Chocolate Love Smoothie (medium) 75g

Planet Smoothie PBJ Smoothie (medium) 75g

Robek's Nutty Acai Bowl 74g

Robek's Mahalo Mango Smoothie (medium) 74g

Smoothie King Veggie Carrot Kale Dream Smoothie (medium) 74g

Smoothie King Vegan Dark Chocolate Banana Smoothie (medium) 74g

Jamba Juice Strawberry Surf Rider Smoothie (medium) 73g

Robek's Hummingbird Smoothie (medium) 73g

Robek's Pina Koolada Smoothie (medium) 73g

Planet Smoothie Road Runner Smoothie (medium) 72g

Jamba Juice Razzmatazz Smoothie (medium) 72g

Sunkist Orange 20 fl. oz. 72g

Planet Smoothie Amazon Kick Smoothie (medium) 71g

Robek's Green Bliss Acai Bowl 70g

Rockstar Energy 20 fl. oz. 70g

Jamba Juice Tropical Caribbean Smoothie (medium) 70g

Planet Smoothie Mediterranean Monster Smoothie (medium) 70g

Planet Smoothie Twig & Berries Smoothie (medium) 70g

Planet Smoothie Shag-A-Delic Smoothie (medium) 69g

Planet Smoothie Pineapple Tropi-Kale Twist Smoothie (medium) 69g

Robek's Strawnana Berry Acai Bowl 69g

Robek's Tropi-Kale Smoothie (medium) 69g

Smoothie King Greek Yogurt Strawberry Blueberry Smoothie (medium) 69g

Jamba Juice Aloha Pineapple Smoothie (medium) 69g

Jamba Juice Acai Super-Antioxidant Smoothie (medium) 69g

Smoothie King Blueberry Heaven Smoothie (medium) 68g

Smoothie King Greek Yogurt Pineapple Mango Smoothie (medium) 68g

Smoothie King Green Tea Tango Smoothie (medium) 68g

Monster Energy 20 fl. oz. 68g

Jamba Juice Strawberries Wild Smoothie (medium) 67g

Smoothie King Vegan Mango Kale Smoothie (medium) 67g

Robek's Passionfruit Cove Smoothie (medium) 67g

Planet Smoothie Fiji Island Breeze Smoothie (medium) 66g

Minute Maid Lemonade 20 fl. oz. 66g

Robek's Raspberry Romance Smoothie (medium) 66g

Robek's Muscle Max Smoothie (medium) 66g

Coca-Cola 20 fl. oz. 65g

Robek's Polar Pineapple Smoothie (medium) 65g

Robek's 800-lb Gorilla Smoothie (medium) 65g

Robek's Big Wednesday Smoothie (medium) 64g

Robek's Nuts About Protein Smoothie (medium) 64g

Pepsi-Cola 20 fl. oz. 64g

Sprite 20 fl. oz. 64g



Red Bull 20 fl. oz. 63g  
 7 UP 20 fl. oz. 62.5g  
 Dr. Pepper 20 fl. oz. 62g  
 Vernor's 20 fl. oz. 62g  
 Planet Smoothie Strawberry Colada Smoothie (medium) 62g  
 Smoothie King Vegan Pineapple Spinach Smoothie (medium) 62g  
 Smoothie King The Activator Recovery Pineapple Smoothie (medium) 61g  
 Jamba Juice Soy Protein Berry Workout Smoothie (medium) 61g  
 Robek's Awesome Acai Smoothie (medium) 61g  
 Robek's Berry Brilliance Smoothie (medium) 61g  
 Smoothie King Coffee D-Lite Vanilla Smoothie (medium) 60g  
 Planet Smoothie Leapin' Lizard Smoothie (medium) 60g  
 Jamba Juice Orange-C Booster Smoothie (medium) 59g  
 Smoothie King Stretch & Flex Pineapple & Kale Smoothie (medium) 59g  
 Faygo Red Pop 20 fl. oz. 59g  
 Robek's Acai Energizer Smoothie (medium) 59g  
 Jamba Juice Apple 'n Greens Smoothie (medium) 58g  
 Planet Smoothie Dragon Fruit Lemon Splash Smoothie (medium) 57g  
 Robek's Age Buster Smoothie (medium) 57g  
 Smoothie King Coffee High Protein Vanilla Smoothie (medium) 56g  
 Smoothie King Coffee High Protein Almond Mocha Smoothie (medium) 56g  
 Smoothie King Original High Protein Chocolate Smoothie (medium) 56g  
 Smoothie King Metabolism Boost Mango Ginger Smoothie (medium) 56g  
 Robek's Hero's Garden Smoothie (medium) 56g  
 Robek's Queen of All Greens Smoothie (medium) 56g  
 Jamba Juice Whey Protein Berry Workout Smoothie (medium) 55g  
 Smoothie King Metabolism Boost Strawberry Pineapple Smoothie (medium) 55g  
 Smoothie King Original High Protein Lemon Smoothie (medium) 55g

Robek's Emperor Acai Smoothie (medium) 55g

Robek's Mango Turmeric Madness Smoothie (medium) 54g

Smoothie King The Activator Recovery Pineapple Spinach Smoothie (medium) 54g

Smoothie King Pure Recharge Strawberry Smoothie (medium) 54g

Smoothie King Vegan Mixed Berry Smoothie (medium) 54g

Jamba Juice Peanut Butter + Banana Protein Smoothie (medium) 53g

Robek's South Pacific Squeeze Smoothie (medium) 53g

Robek's Berry Beneficial Smoothie (medium) 52g

Smoothie King Metabolism Boost Banana Passionfruit Smoothie (medium) 51g

Jamba Juice The Go Getter Smoothie (medium) 51g

Sierra Mist 20 fl. oz. 47g

Hawaiian Punch 20 fl. oz. 41g

Grape juice 8 fl. oz. 35g

Passionfruit juice 8 fl. oz. 35g

Cherry juice 8 fl. oz. 33g

Cranberry juice 8 fl. oz. 30g

Pomegranate juice 8 fl. oz. 29g

Currants, dried ¼ cup 25g

Apple juice 8 fl. oz. 23g

Pomegranates 1 cup 23g

Grapes 1 cup 23g

Pineapple juice 8 fl. oz. 23g

Mango 1 cup 22g

Grapefruit juice 8 fl. oz. 22g

Persimmon 1 fruit 21g

Orange juice 8 fl. oz. 20g

Tangerine 1 cup 20g

Sweet cherries	1 cup	18g
Honey	1 Tbsp.	17g
Oranges	1 cup	17g
Medjool dates	1 date	16g
Kiwi	1 cup	16g
Pineapple	1 cup	16g
Molasses	1 Tbsp.	15g
Blueberries	1 cup	15g
Banana	1 medium	15g
Apricots	1 cup	14g
Sweet potato*	1 cup	13g
Brown sugar	1 Tbsp.	13g
Peaches	1 cup	13g
Papaya	1 cup	13g
Sour cherries	1 cup	13g
Apples	1 cup	13g
Honeydew	1 cup	13g
Cantaloupe	1 cup	12g
Beets	1 cup	12g
Pears	1 cup	12g
Grapefruit	1 cup	12g
Watermelon	1 cup	9g
Maple syrup	1 Tbsp.	8g
Carrots	1 cup	7g
Strawberries	1 cup	7g
Blackberries	1 cup	7g
Raspberries	1 cup	5g

\*cooked

## Protein

Protein is an essential nutrient made from amino acids. Athletes may need more protein to build and repair muscles in their post-workout state. To absorb protein, they must be broken down into amino acids. They are the biological building blocks of life.

Stomach enzymes (pepsin) and pancreatic enzymes (trypsin and chymotrypsin) work together to deliver proteins to the small intestine (in a pancreatic liquid) to break down into shorter chains of amino acids.

Small intestine enzymes (peptidases) break down the chains further to single amino acids, dipeptides or tripeptides. At this stage, the amino acids can be absorbed at a rate of 1-10 grams/hour. Whey protein is absorbed faster than other proteins. According to the European Food Information Council, around 90% of ingested protein is absorbed.

The best sources of protein:

Rabbit*	4 oz.	37g	Pheasant*	4 oz.	36g
Bear*	4 oz.	37g	Beefalo, ground*	4 oz.	35g
Bluefin tuna*	4 oz.	34g	Bison, ground*	4 oz.	29g
Caribou*	4 oz.	34g	Tilapia*	4 oz.	29g
Amberjack fish*	4 oz.	34g	Trout*	4 oz.	28g
Bison ribeye*	4 oz.	33g	Wild goose*	4 oz.	28g
Antelope*	4 oz.	33g	Quail*	4 oz.	28g
Turkey*	4 oz.	33g	Whitefish*	4 oz.	28g
Moose*	4 oz.	33g	Pollock*	4 oz.	28g
Emu, ground*	4 oz.	32g	Duck breast*	4 oz.	28g
Wild boar*	4 oz.	32g	Grouper*	4 oz.	28g
Beef ribeye*	4 oz.	31g	Perch*	4 oz.	28g
Halibut*	4 oz.	30g	Pike*	4 oz.	28g
Goat*	4 oz.	30g	Walleye*	4 oz.	28g
Venison, ground*	4 oz.	30g	Beef, ground*	4 oz.	27g
Elk, ground*	4 oz.	30g	Mussels*	4 oz.	27g
Water buffalo*	4 oz.	30g	Mahi Mahi*	4 oz.	27g
Ostrich, ground*	4 oz.	30g	Swordfish*	4 oz.	27g

Wild salmon*	4 oz.	26g
Smelt*	4 oz.	26g
Mackerel*	4 oz.	26g
Sea bass*	4 oz.	26g
Orange Roughy*	4 oz.	26g
Herring*	4 oz.	25g
Cod*	4 oz.	25g
Rockfish*	4 oz.	25g
Cornish game hen*	4 oz.	25g
Chicken breast*	4 oz.	25g
King crab*	4 oz.	24g
Lamb chops*	4 oz.	23g
Yak, ground*	4 oz.	23g
Haddock*	4 oz.	23g
Pork chops*	4 oz.	23g
Shrimp*	4 oz.	23g
Turbot*	4 oz.	23g
Haddock*	4 oz.	23g
Catfish*	4 oz.	22g
Lobster*	4 oz.	21g
Monkfish*	4 oz.	21g
Dover sole*	4 oz.	21g
Oysters*	4 oz.	21g
Clams*	4 oz.	20g
Chicken thighs*	4 oz.	20g
Spirulina powder	1 oz.	19g
Pinto beans*	1 cup	19g
Lentils*	1 cup	18g

Flounder*	4 oz.	18g
Chlorella powder	1 oz.	17g
Scallops*	4 oz.	16g
Kidney beans*	1 cup	16g
Black beans*	1 cup	15g
Skyr	5.3 oz.	15g
Chickpeas*	1 cup	14g
Brown rice*	1 cup	14g
Dave's Killer		
Everything bagels	1 bagel	13g
Greek yogurt	4 oz.	11g
Oats*	1 cup	11g
Bacon*	1 oz.	10g
Hemp seeds	3 Tbsp.	9g
Quinoa*	1 cup	8g
Pasta*	1 cup	8g
Anchovies, canned	1 oz.	8g
Whole milk, raw	8 fl. oz.	8g
Green peas*	1 cup	8g
Cheese	1 oz.	7g
Potato*	1 cup	7g
Peanut butter	2 Tbsp.	7g
Sardines	1 oz.	7g
Eggs*	1 large	6g
Wild rice*	1 cup	6g
Almond butter	2 Tbsp.	6g
Pistachios	1 oz.	6g
Sunflower seeds	¼ cup	6g

Chocolate Carnation			Corn	1 cup	4g
Instant Breakfast	1 packet	5g	Walnuts	1 oz.	4g
Bee pollen	1 oz.	5g	Hazelnuts	1 oz.	4g
Flax seeds	1 oz.	5g	White rice	1 cup	4g
Poppy seeds	1 oz.	5g	Raw cacao powder	3 Tbsp.	3g
Pumpkin seeds	1 oz.	5g	Barley*	1 cup	3g
Cashews	1 oz.	5g	Macadamia nuts	1 oz.	2g
Sweet potatoes*	1 cup	4g	*cooked		
Sesame seeds	1 oz.	4g			
Chia seeds	1 oz.	4g			

### Essential Amino Acids

Amino acids are the building blocks of life. The essential amino acids come from food and the non-essential can be made inside the body as needed. Amino Acids are molecules that link together to form protein. They come in two forms: non-essential and essential.

### Non-Essential

Alanine assists our metabolism, muscles, brain and the central nervous system.

Arginine boosts our immune system and heart health.

Asparagine serves as a diuretic, enhances our nerve and brain function.

Aspartate aids in the production of asparagine, arginine and lysine.

Cysteine is the main protein in hair, skin and nails.

Glutamic Acid serves as a neurotransmitter.

Glycine serves as a neurotransmitter.

Proline boosts metabolism, healthy joints and it is found inside collagen.

Serine is a key part of fat metabolism, muscle growth and supporting our immune system.

Tyrosine helps to integrate thyroid hormones, melanin and epinephrine.

## Essential

### Histidine

Histidine is used to make hormones and metabolites for proper kidney and stomach health, nerve transmission, and for supporting a strong immune system. Histidine protects the myelin sheath around the brain.

This essential amino acid also helps to metabolize copper, iron, zinc and manganese. When people have allergic reactions, histamine elevates, causing an inflammatory response.

Histamine is a byproduct of histidine.

Histidine deficiency symptoms: chronic kidney failure, pneumonia, mania, schizophrenia.

The best sources of Histidine:

Pork chops*	4 oz.	2,225mg	Elk, ground*	4 oz.	930mg
Wild Boar*	4 oz.	1,620mg	Bratwurst*	4 oz.	929mg
Antelope*	4 oz.	1,580mg	Wild salmon*	4 oz.	913mg
Skirt steak*	4 oz.	1,465mg	Chicken thigh*	4 oz.	912mg
Ham*	4 oz.	1,380mg	Venison, ground*	4 oz.	890mg
Chicken breast*	4 oz.	1,354mg	Lamb, ground*	4 oz.	888mg
Pork tenderloin*	4 oz.	1,339mg	Roast duck*	4 oz.	868mg
Kielbasa*	4 oz.	1,321mg	Halibut*	4 oz.	844mg
Pork spareribs*	4 oz.	1,316mg	Pollock*	4 oz.	830mg
Beef tenderloin*	4 oz.	1,310mg	Turkey breast*	4 oz.	828mg
Cod*	4 oz.	1,210mg	Grouper*	4 oz.	820mg
Bison, ground*	4 oz.	1,057mg	Whitefish*	4 oz.	810mg
Venison filet	4 oz.	1,014mg	Walleye*	4 oz.	810mg
Water Buffalo*	4 oz.	1,000mg	Mackerel*	4 oz.	795mg
Bluefin Tuna*	4 oz.	997mg	Mahi Mahi*	4 oz.	790mg
Yellowtail*	4 oz.	990mg	Pepperoni	4 oz.	780mg
Beef, ground*	4 oz.	970mg	Swordfish*	4 oz.	780mg
Trout*	4 oz.	965mg	Smelt*	4 oz.	750mg

Ostrich, ground*	4 oz.	745mg	Orange Roughy*	4 oz.	530mg
Duck Breast*	4 oz.	720mg	Dover sole*	4 oz.	510mg
Emu, ground*	4 oz.	700mg	Lentils*	1 cup	503mg
Salami	4 oz.	696mg	Bacon*	1 oz.	501mg
Turbot*	4 oz.	680mg	Kidney beans*	1 cup	467mg
Oats	1 cup	632mg	Whole milk, raw	8 fl. oz.	232mg
Ricotta	½ cup	575mg	Tangy Tangerine	2.5	
Rockfish*	4 oz.	560mg		1 scoop	10.81mg

\*cooked

### Isoleucine

Isoleucine plays a key role in detoxification, discharging hormones and wound healing. Isoleucine is one of the branched chained amino acids, along with leucine and valine, which can boost energy levels and aid in muscle recovery from strenuous exercise. This essential amino acid also helps to even out blood sugar levels by increasing glucose utilization during exercise.

Isoleucine deficiency symptoms: confusion, depression, dizziness, fatigue, headaches, irritability. Isoleucine deficiencies are quite rare especially if you eat a balanced diet.

The best sources of Isoleucine:

Pork chops*	4 oz.	2,589mg	Wild Boar*	4 oz.	1,550mg
Cod*	4 oz.	1,894mg	Pork spareribs*	4 oz.	1,542mg
Kielbasa*	4 oz.	1,820mg	Water Buffalo*	4 oz.	1,520mg
Skirt steak*	4 oz.	1,790mg	Trout*	4 oz.	1,510mg
Chicken breast	4 oz.	1,782mg	Venison filet	4 oz.	1,458mg
Duck breast*	4 oz.	1,688mg	Wild salmon*	4 oz.	1,444mg
Beef tenderloin*	4 oz.	1,646mg	Chicken thigh*	4 oz.	1,441mg
Ham*	4 oz.	1,644mg	Duck Breast*	4 oz.	1,410mg
Pork tenderloin*	4 oz.	1,575mg	Ostrich, ground*	4 oz.	1,408mg
Bluefin tuna*	4 oz.	1,562mg	Bison, ground*	4 oz.	1,393mg
Yellowtail*	4 oz.	1,550mg	Lamb, ground*	4 oz.	1,353mg



Halibut*	4 oz.	1,320mg	Rockfish*	4 oz.	1,200mg
Beef, ground*	4 oz.	1,320mg	Orange Roughy*	4 oz.	1,200mg
Pollock*	4 oz.	1,300mg	Shrimp*	4 oz.	1,190mg
Grouper*	4 oz.	1,290mg	Smelt*	4 oz.	1,180mg
Venison, ground*	4 oz.	1,280mg	Mussels*	4 oz.	1,174mg
Walleye*	4 oz.	1,280mg	Bratwurst*	4 oz.	1,089mg
Whitefish*	4 oz.	1,270mg	Oats	1 cup	1,083mg
Antelope*	4 oz.	1,270mg	Turbot*	4 oz.	1,070mg
Clams*	4 oz.	1,260mg	Dover sole*	4 oz.	1,040mg
Elk, ground*	4 oz.	1,260mg	Emu, ground*	4 oz.	1,040mg
Mackerel*	4 oz.	1,245mg	Turkey breast*	4 oz.	876mg
Mahi Mahi*	4 oz.	1,230mg	Eggs*	2 large	803mg
Swordfish*	4 oz.	1,230mg	Whole milk, raw	8 fl. oz.	483mg
Salami	4 oz.	1,228mg	Tangy Tangerine	2.5	
			1 scoop		20.18mg

\*cooked

## Leucine

Leucine is crucial for protein synthesis, metabolism, blood sugar regulation and for speeding up wound healing. Leucine is also one of the main branched chain amino acids. This amino acid is a core part of mitochondria (the energy regulators in our cells). Leucine also helps to grow and repair bones and muscles.

Leucine deficiency symptoms: dizziness, fatigue, headaches.

The best sources of Leucine:

Skirt steak*	4 oz.	6,676mg	Cod*	4 oz.	3,341mg
Bluefin tuna*	4 oz.	5,510mg	Beef tenderloin*	4 oz.	3,038mg
Pork chop*	4 oz.	4,501mg	Chicken breast*	4 oz.	3,005mg
Kielbasa*	4 oz.	3,356mg	Ham*	4 oz.	2,865mg

Antelope*	4 oz.	2,820mg	Shrimp*	4 oz.	2,210mg
Duck breast*	4 oz.	2,776mg	Mackerel*	4 oz.	2,196mg
Yellowtail*	4 oz.	2,730mg	Lamb, ground*	4 oz.	2,181mg
Pork tenderloin*	4 oz.	2,707mg	Mahi Mahi*	4 oz.	2,180mg
Trout*	4 oz.	2,664mg	Swordfish*	4 oz.	2,170mg
Pork spareribs*	4 oz.	2,642mg	Turkey breast*	4 oz.	2,118mg
Water Buffalo*	4 oz.	2,610mg	Rockfish*	4 oz.	2,080mg
Wild Boar*	4 oz.	2,600mg	Smelt*	4 oz.	2,080mg
Chicken thigh*	4 oz.	2,591mg	Clams*	4 oz.	2,037mg
Venison filet*	4 oz.	2,584mg	Orange Roughy*	4 oz.	2,030mg
Wild salmon*	4 oz.	2,520mg	Oats	1 cup	2,003mg
Bison, ground*	4 oz.	2,474mg	Mussels*	4 oz.	1,900mg
Ostrich, ground*	4 oz.	2,410mg	Turbot*	4 oz.	1,890mg
Halibut*	4 oz.	2,329mg	Bratwurst*	4 oz.	1,866mg
Beef, ground*	4 oz.	2,328mg	Salami	4 oz.	1,841mg
Duck Breast*	4 oz.	2,320mg	Dover sole*	4 oz.	1,840mg
Pollock*	4 oz.	2,290mg	Emu, ground*	4 oz.	1,780mg
Grouper*	4 oz.	2,290mg	Ricotta cheese	½ cup	1,531mg
Venison, ground*	4 oz.	2,270mg	Whole milk, raw	8 fl. oz.	783mg
Walleye*	4 oz.	2,260mg	Tangy Tangerine	2.5	
Whitefish*	4 oz.	2,250mg		1 scoop	39.85mg
Elk, ground*	4 oz.	2,250mg	*cooked		

### Lysine

Lysine is a key element for growth and tissue repair, as well as hormone, protein and enzyme production. This essential amino acid helps to repair bones and muscles after surgery and injuries.

Lysine deficiency symptoms: anemia, dizziness, fatigue, reproductive disorders, poor concentration, hair loss, loss of appetite, nausea.

The best sources of Lysine:

Pork chops*	4 oz.	4,864mg	Whitefish*	4 oz.	2,540mg
Cod*	4 oz.	3,775mg	Mackerel*	4 oz.	2,482mg
Skirt steak*	4 oz.	3,746mg	Rockfish*	4 oz.	2,480mg
Chicken breast*	4 oz.	3,494mg	Lamb, ground*	4 oz.	2,477mg
Beef tenderloin*	4 oz.	3,396mg	Beef, ground*	4 oz.	2,472mg
Ham*	4 oz.	3,227mg	Mahi Mahi*	4 oz.	2,470mg
Wild Boar*	4 oz.	3,160mg	Shrimp*	4 oz.	2,461mg
Bluefin tuna*	4 oz.	3,113mg	Elk, ground*	4 oz.	2,460mg
Yellowtail*	4 oz.	3,090mg	Swordfish*	4 oz.	2,450mg
Kielbasa*	4 oz.	3,056mg	Venison, ground*	4 oz.	2,430mg
Pork tenderloin*	4 oz.	3,037mg	Water Buffalo*	4 oz.	2,400mg
Trout*	4 oz.	3,010mg	Orange Roughy*	4 oz.	2,370mg
Pork spareribs*	4 oz.	2,961mg	Duck Breast*	4 oz.	2,350mg
Chicken thigh*	4 oz.	2,852mg	Smelt*	4 oz.	2,350mg
Wild salmon*	4 oz.	2,848mg	Dover sole*	4 oz.	2,160mg
Duck breast*	4 oz.	2,813mg	Turbot*	4 oz.	2,140mg
Antelope*	4 oz.	2,790mg	Bratwurst*	4 oz.	2,091mg
Venison filet	4 oz.	2,758mg	Mussels*	4 oz.	2,016mg
Bison, ground*	4 oz.	2,677mg	Emu, ground*	4 oz.	1,890mg
Halibut*	4 oz.	2,630mg	Pepperoni	4 oz	1,872mg
Ostrich, ground*	4 oz.	2,618mg	Ricotta cheese	½ cup	1,678mg
Pollock*	4 oz.	2,590mg	Turkey breast*	4 oz.	630mg
Grouper*	4 oz.	2,580mg	Tangy Tangerine	2.5	
Walleye*	4 oz.	2,550mg		1 scoop	12.71mg

\*cooked

## Methionine

Methionine is a sulfur-based essential amino acid that helps to strengthen the hair, skin and nails. It also aids in detoxification, slows down aging and helps with selenium and zinc absorption. It is important to note that methionine is very useful for heavy metal excretion, lead and mercury, along with preventing excess fat buildup in the liver.

Methionine deficiency symptoms: fatty liver, edema, skin lesions, dementia, muscle paralysis, hair loss, depression.

The best sources of Methionine:

Pork chops*	4 oz.	1,500mg	Walleye*	4 oz.	820mg
Cod*	4 oz.	1,217mg	Orange Roughy*	4 oz.	820mg
Kielbasa*	4 oz.	1,051mg	Mackerel*	4 oz.	800mg
Skirt steak*	4 oz.	1,026mg	Rockfish*	4 oz.	800mg
Bluefin tuna*	4 oz.	1,003mg	Turkey breast*	4 oz.	799mg
Yellowtail*	4 oz.	990mg	Venison filet*	4 oz.	793mg
Wild salmon*	4 oz.	972mg	Mahi Mahi*	4 oz.	790mg
Trout*	4 oz.	971mg	Swordfish*	4 oz.	790mg
Antelope*	4 oz.	950mg	Wild Boar*	4 oz.	790mg
Chicken breast*	4 oz.	945mg	Bison, ground*	4 oz.	780mg
Beef tenderloin*	4 oz.	938mg	Dover sole*	4 oz.	770mg
Ham*	4 oz.	927mg	Beef, ground*	4 oz.	768mg
Pork tenderloin*	4 oz.	890mg	Water Buffalo*	4 oz.	760mg
Duck breast*	4 oz.	889mg	Smelt*	4 oz.	750mg
Pork spareribs*	4 oz.	872mg	Shrimp*	4 oz.	753mg
Chicken thigh*	4 oz.	863mg	Elk, ground*	4 oz.	740mg
Halibut*	4 oz.	848mg	Duck Breast*	4 oz.	740mg
Pollock*	4 oz.	830mg	Lamb, ground*	4 oz.	720mg
Grouper*	4 oz.	830mg	Turbot*	4 oz.	690mg
Ostrich, ground*	4 oz.	829mg	Venison, ground*	4 oz.	690mg
Whitefish*	4 oz.	820mg	Clams*	4 oz.	653mg

Bratwurst*	4 oz.	615mg	Oats	1 cup	487mg
Emu, ground*	4 oz.	610mg	Tangy Tangerine	2.5	
Mussels*	4 oz.	608mg		1 scoop	15.76mg
Pepperoni	4 oz.	578mg	*cooked		

### Phenylalanine

Phenylalanine is an essential amino acid that helps to make dopamine, norepinephrine and melanin production. Phenylalanine comes in 3 distinct forms: L, D, DL.

L-Phenylalanine is found in foods.

D-Phenylalanine is made in a laboratory.

DL-Phenylalanine is a combination of the first two forms.

Phenylalanine deficiency symptoms: confusion, lack of energy, depression, memory issues.

The best sources of Phenylalanine:

Pork chops*	4 oz.	2,272mg	Wild boar*	4 oz.	1,280mg
Kielbasa*	4 oz.	1,635mg	Chicken thigh*	4 oz.	1,233mg
Cod*	4 oz.	1,604mg	Bison, ground*	4 oz.	1,225mg
Ham*	4 oz.	1,585mg	Ostrich, ground*	4 oz.	1,224mg
Skirt steak*	4 oz.	1,531mg	Water buffalo*	4 oz.	1,210mg
Chicken breast*	4 oz.	1,466mg	Wild salmon*	4 oz.	1,210mg
Beef tenderloin*	4 oz.	1,408mg	Beef, ground*	4 oz.	1,165mg
Oats	1 cup	1,396mg	Duck Breast*	4 oz.	1,150mg
Duck breast*	4 oz.	1,378mg	Lamb, ground*	4 oz.	1,142mg
Pork tenderloin*	4 oz.	1,348mg	Venison, ground*	4 oz.	1,130mg
Bluefin tuna*	4 oz.	1,324mg	Shrimp*	4 oz.	1,124mg
Antelope*	4 oz.	1,320mg	Halibut*	4 oz.	1,120mg
Pork spareribs*	4 oz.	1,314mg	Elk, ground*	4 oz.	1,100mg
Yellowtail*	4 oz.	1,310mg	Grouper*	4 oz.	1,100mg
Venison filet*	4 oz.	1,284mg	Pollock*	4 oz.	1,100mg
Trout*	4 oz.	1,280mg	Whitefish*	4 oz.	1,080mg

Walleye*	4 oz.	1,080mg	Turbot*	4 oz.	910mg
Salami	4 oz.	1,065mg	Kidney beans*	1 cup	908mg
Rockfish*	4 oz.	1,060mg	Pinto beans*	1 cup	908mg
Mackerel*	4 oz.	1,055mg	Lentils*	1 cup	881mg
Mahi Mahi*	4 oz.	1,050mg	Dover sole*	4 oz.	860mg
Swordfish*	4 oz.	1,040mg	Chickpeas*	1 cup	779mg
Clams*	4 oz.	1,037mg	Whole milk, raw*	8 fl. oz.	397mg
Smelt*	4 oz.	1,000mg	Tangy Tangerine 2.5		
Turkey breast*	4 oz.	984mg		1 scoop	26.11mg
Orange roughy*	4 oz.	980mg	*cooked		
Bratwurst*	4 oz.	928mg			
Emu, ground*	4 oz.	920mg			

### Threonine

Threonine assists with collagen and elastin production. This essential amino acid promotes gut health, muscle contractions, alleviates anxiety and speeds up wound healing.

Threonine deficiency symptoms: confusion, fatty liver, digestive issues, emotional agitation, poor nutrient absorption.

The best sources of Threonine:

Pork chop*	4 oz.	2,404mg	Wild boar*	4 oz.	1,500mg
Skirt steak*	4 oz.	1,808mg	Bluefin tuna*	4 oz.	1,486mg
Cod*	4 oz.	1,802mg	Yellowtail*	4 oz.	1,470mg
Beef tenderloin*	4 oz.	1,660mg	Water buffalo*	4 oz.	1,450mg
Chicken breast*	4 oz.	1,630mg	Chicken thigh*	4 oz.	1,443mg
Ham*	4 oz.	1,617mg	Trout*	4 oz.	1,437mg
Antelope*	4 oz.	1,540mg	Duck breast*	4 oz.	1,404mg
Pork tenderloin*	4 oz.	1,539mg	Bison, ground*	4 oz.	1,309mg
Kielbasa*	4 oz.	1,517mg	Ostrich, ground*	4 oz.	1,301mg
Pork spareribs*	4 oz.	1,504mg	Venison filet*	4 oz.	1,284mg

Halibut*	4 oz.	1,256mg	Rockfish*	4 oz.	1,150mg
Clams*	4 oz.	1,245mg	Salami	4 oz.	1,146mg
Pollock*	4 oz.	1,230mg	Venison, ground*	4 oz.	1,130mg
Grouper*	4 oz.	1,230mg	Smelt*	4 oz.	1,120mg
Walleye*	4 oz.	1,220mg	Turkey breast*	4 oz.	1,109mg
Whitefish*	4 oz.	1,210mg	Bratwurst*	4 oz.	1,062mg
Elk, ground*	4 oz.	1,210mg	Turbot*	4 oz.	1,020mg
Lamb, ground*	4 oz.	1,200mg	Dover sole*	4 oz.	990mg
Mackerel*	4 oz.	1,184mg	Pepperoni	4 oz.	985mg
Swordfish*	4 oz.	1,170mg	Emu, ground*	4 oz.	920mg
Mahi Mahi*	4 oz.	1,170mg	Oats	1 cup	897mg
Duck Breast*	4 oz.	1,170mg	Whole milk, raw	8 fl. oz.	361mg
Wild salmon*	4 oz.	1,165mg	Tangy Tangerine	2.5	
Mussels*	4 oz.	1,161mg		1 scoop	16.79mg
Orange roughly*	4 oz.	1,160mg	*cooked		
Beef, ground*	4 oz.	1,156mg			

### Tryptophan

Tryptophan raises serotonin levels which enhances our mood, pain, appetite and sleep cycles (Circadian rhythm). It also synthesizes melatonin and serotonin. Tryptophan can be converted to niacin. This essential amino acid may help with sleep disorder, anxiety, headaches, ADHD, PMS, and fibromyalgia.

Tryptophan deficiency symptoms: anxiety, cognitive imbalances (dementia), reduced appetite, diarrhea, insomnia.

The best sources of Tryptophan:

Pork chop*	4 oz.	651mg	Ham*	4 oz.	437mg
Cod*	4 oz.	461mg	Wild boar*	4 oz.	430mg
Duck breast*	4 oz.	458mg	Pork tenderloin*	4 oz.	426mg
Chicken breast*	4 oz.	458mg	Skirt steak*	4 oz.	424mg
Kielbasa*	4 oz.	455mg	Pork spareribs*	4 oz.	418mg

Beef tenderloin*	4 oz.	397mg	Mahi Mahi*	4 oz.	300mg
Wild salmon*	4 oz.	380mg	Bratwurst*	4 oz.	295mg
Bluefin tuna*	4 oz.	380mg	Shrimp*	4 oz.	294mg
Duck breast*	4 oz.	380mg	Salami	4 oz.	286mg
Yellowtail*	4 oz.	370mg	Lobster*	4 oz.	281mg
Water buffalo*	4 oz.	370mg	Smelt*	4 oz.	280mg
Trout*	4 oz.	368mg	Elk, ground*	4 oz.	270mg
Chicken thigh*	4 oz.	333mg	Dover sole*	4 oz.	270mg
Rockfish*	4 oz.	330mg	Ostrich, ground*	4 oz.	264mg
Turkey breast*	4 oz.	325mg	Pepperoni	4 oz.	261mg
Clams*	4 oz.	324mg	Venison, ground*	4 oz.	260mg
Halibut*	4 oz.	321mg	Turbot*	4 oz.	260mg
Walleye*	4 oz.	310mg	Orange roughy*	4 oz.	260mg
Grouper*	4 oz.	310mg	Emu, ground*	4 oz.	210mg
Whitefish*	4 oz.	310mg	Eggs*	2 large	204mg
Pollock*	4 oz.	310mg	Beef, ground*	4 oz.	152mg
Mackerel*	4 oz.	302mg	Whole milk, raw	8 fl. oz.	112mg
Mussels*	4 oz.	302mg	Tangy Tangerine 2.5		
Venison filet*	4 oz.	301mg		1 scoop	5.64mg
Swordfish*	4 oz.	300mg	*cooked		

### Valine

Valine is an essential amino acid that enhances cognitive function, muscles and mood regulation. It is one of the main branched chain amino acids that helps to build muscle, improve sleep cycles and reduce anxiety.

Valine deficiency symptoms: muscle weakness, poor coordination, high blood pressure, maple syrup urine disease (a genetic disorder where the body cannot metabolize BCAAs).



The best sources of Valine:

Kielbasa*	4 oz.	2,161mg	Oats*	1 cup	1,462mg
Cod*	4 oz.	2,117mg	Grouper*	4 oz.	1,450mg
Ham*	4 oz.	1,940mg	Pollock*	4 oz.	1,450mg
Skirt steak*	4 oz.	1,889mg	Venison, ground*	4 oz.	1,450mg
Chicken breast*	4 oz.	1,881mg	Duck breast*	4 oz.	1,440mg
Pork Chops*	4 oz.	1,844mg	Whitefish*	4 oz.	1,430mg
Pork tenderloin*	4 oz.	1,831mg	Walleye*	4 oz.	1,430mg
Pork spareribs*	4 oz.	1,786mg	Elk, ground*	4 oz.	1,400mg
Bluefin tuna*	4 oz.	1,746mg	Mackerel*	4 oz.	1,392mg
Beef tenderloin*	4 oz.	1,741mg	Mahi Mahi*	4 oz.	1,380mg
Yellowtail*	4 oz.	1,730mg	Swordfish*	4 oz.	1,370mg
Wild boar*	4 oz.	1,720mg	Smelt*	4 oz.	1,320mg
Duck breast*	4 oz.	1,719mg	Salami	4 oz.	1,269mg
Trout*	4 oz.	1,689mg	Clams*	4 oz.	1,265mg
Venison filet*	4 oz.	1,649mg	Bratwurst*	4 oz.	1,261mg
Water buffalo*	4 oz.	1,610mg	Rockfish*	4 oz.	1,250mg
Wild salmon*	4 oz.	1,598mg	Orange roughy*	4 oz.	1,220mg
Bison, ground*	4 oz.	1,553mg	Shrimp*	4 oz.	1,209mg
Lamb, ground*	4 oz.	1,513mg	Turbot*	4 oz.	1,200mg
Antelope*	4 oz.	1,480mg	Dover sole*	4 oz.	1,100mg
Halibut*	4 oz.	1,476mg	Emu, ground*	4 oz.	1,070mg
Chicken thigh*	4 oz.	1,475mg	Eggs*	2 large	922mg
Beef, ground*	4 oz.	1,466mg	Whole milk, raw	8 fl. oz.	537mg
Ostrich, ground*	4 oz.	1,464mg	Tangy Tangerine	2.5	
				1 scoop	27.95mg

\*cooked

## Vitamins

Vitamins are classified as organic substances that are required for our bodies to function properly. This is one of those absolutes in life; not up for negotiation (minerals are just as important). Vitamins work synergistically with minerals. Vitamins are either fat-soluble or water-soluble. Fat-soluble vitamins get stored up in our fat tissue. Water-soluble vitamins are eliminated each day and must be replenished more often.

Vitamins are found in foods and supplements. While I do believe in the power of the right supplements, they are only the finishing touches on top of a healthy diet. Vitamins need to be consumed with foods to properly absorb, especially with fat. We must get the majority of our vitamins and minerals from food. Remember, if the nutritional label doesn't show a specific vitamin, don't assume that it is not in the food.

Everything that you eat matters!

The term "vitamin" was coined by the biochemist Casimir Funk in 1912. Funk is the pioneer in the field of vitamin therapy. He was brilliant with his finding that specific vitamins could be used to treat specific illnesses (aka nutritional deficiencies):

-Beriberi (lack of Vitamin B1)

-Pellagra (lack of Vitamin B3)

-Scurvy (lack of Vitamin C)

-Rickets (lack of Vitamin D)

People often scoff at the thought of nutritional deficiencies. Let's not forget about all of the year round monocrops that strip the soil of key vitamins and minerals. Remember, in the 1930s, the U.S. government started to fortify foods to prevent nutritional deficiencies.

Two key examples come to mind:

-adding iodine to table salt to prevent goiter

-adding folic acid (folate) to grain products to prevent birth defects during pregnancy

Everybody has a nutritional deficiency. Obviously get tested but let's run through some examples:

Stuck inside all winter in Michigan? Vitamin D

Do you eat out frequently? Vitamin A, B1 & C

Are you a woman 13-40? Calcium & Iron

Are you following a brainwashed vegan cult diet (17 daily juices, cockroach milk, soy lent green, crickets) to save the baby whales from flesh eating sharks with laser beams?

Vitamin B12

## Vitamin A

Vitamin A comes in the form of retinoids and carotenoids. It is a fat-soluble vitamin that is essential for healthy eyes, skin, hair and for a healthy immune system. Vitamin A from plants (Provitamin A) needs to be converted to active Vitamin A to be used efficiently in the body (go for roasted carrots over raw carrots). Plant-based foods contain Beta Carotene while active Vitamin A (Retinol) is found mainly in eggs and organ meats.

Vitamin A works even better when you combine it with calcium, magnesium, phosphorus, selenium and zinc.

Vitamin A deficiency symptoms: dry eyes, dry skin, night blindness, infertility, respiratory tract infections, acne, poor wound healing, night blindness, increased infections, broken nails.

The best sources of Vitamin A:

Cod liver oil	1 oz.	8,504mcg	Kale*	1 cup	318mcg
Duck liver*	1 oz.	3,397mcg	Red bell pepper	1 cup	235mcg
Tangy Tangerine 2.5	1 scoop	3,200mcg	Butter	2 Tbsp.	212mcg
Beef liver*	1 oz.	2,651mcg	Mango	1 medium	181mcg
Liver sausage, pork*	1 oz.	2,355mcg	Green peas*	1 cup	168mcg
Turkey liver*	1 oz.	2,284mcg	Apricots	1 cup	148mcg
Lamb liver*	1 oz.	2,095mcg	Tomatoes*	1 cup	148mcg
Sweet potato*	1 cup	1,836mcg	Swiss chard	1 leaf	147mcg
Carrots*	1 cup	1,277mcg	Grapefruit	1 medium	143mcg
Butternut squash*	1 cup	1,144mcg	Spinach, raw	1 cup	140mcg
Goji berries, dried	2 ½ Tbsp.	1,127mcg	Romaine lettuce	1 large leaf	122mg
Chicken liver*	1 oz.	1,119mcg	Parsley, raw	1 oz.	119mcg
Watercress	4 oz.	1,086mcg	Whole milk, raw	8 fl. oz.	118mcg
Pumpkin, canned	½ cup	953mcg	Cherries	1 cup	99mcg
Spinach*	1 cup	941mcg	Cream cheese	1 oz.	90mcg
Collard greens*	1 cup	722mcg	Cheddar cheese	1 oz.	89mcg
Cherry tomato	1 cup	372mcg	Watermelon	1 wedge	80mcg
Brussels sprouts*	1 cup	363mcg	Eggs*	1 large	80mcg
Cantaloupe	1 cup	359mcg	Quail*	4 oz.	79mcg

Tomatoes, raw	1 cup	75mcg	Goat*	4 oz.	35mcg
Papaya	1 small	74mcg	Broccoli*	1 cup	35mcg
Herring*	1 oz.	73mcg	Herring*	4 oz.	32mcg
Mahi Mahi*	4 oz.	70mcg	Pike*	4 oz.	27mcg
Tangerines	1 cup	66mcg	Tomato juice	4 fl. oz.	26mcg
Pheasant*	4 oz.	64mcg	Nectarine	1 medium	24mcg
Sea Bass*	4 oz.	58mcg	Wild blueberries	1 cup	24mcg
Paprika	1 tsp.	56mcg	Wild goose*	4 oz.	23mcg
Grouper*	4 oz.	56mcg	Haddock*	4 oz.	21mcg
Chocolate Carnation			Orange	1 cup	19mcg
Instant Breakfast	1 packet	50mcg	Avocado	1 cup	16mcg
Red cabbage	1 cup	49mcg	Blackberries	1 cup	15mcg
Swordfish*	4 oz.	48mcg	Pollock*	4 oz.	13mcg
Wild salmon*	4 oz.	45mcg	Corn, raw	1 cup	13mcg
Whitefish*	4 oz.	44mcg	Basil	1 Tbsp.	7mcg
Marinara sauce	½ cup	40mcg	Honeydew melon	1 cup	4mcg
Cayenne pepper	1 tsp.	37mcg	Bacon*	1 oz.	3mcg
Peaches	1 cup	37mcg	*cooked		
Cornish Game Hen*	4 oz.	36mcg			

Vitamin B1 (Thiamine), Vitamin B2 (Riboflavin), Vitamin B3 (Niacin) and Vitamin B5 (Pantothenic Acid) are water-soluble vitamins that aid in glucose metabolism to energize our brain, heart and nerves. B Vitamins are amplified by copper, iron, manganese, potassium and sodium.

#### Vitamin B1 (Thiamine)

Vitamin B1 is a water-soluble vitamin that is crucial for helping the body's energy production (carbohydrate metabolism), growth and maintenance. This vitamin may prevent beri, heart disease and indigestion. This vitamin plays a major role in basic functioning (heart, muscles and nervous system) and the growth of all cells.

Vitamin B1 deficiency symptoms: poor appetite, digestive issues, low energy, short-term memory loss, muscle cramps, depression, colitis, battling an illness, pregnancy, smoking, drinking alcohol, heavy sugar intake, excessive stress, recovering from surgery.

The best sources of Vitamin B1:

Tangy Tangerine 2.5	1 scoop	30mg	Emu, ground*	4 oz.	0.36mg
Oats	1 cup	1.20mg	Wild salmon*	4 oz.	0.36mg
Ham*	4 oz.	1.10mg	Wild Boar*	4 oz.	0.35mg
Pork tenderloin*	4 oz.	1.06mg	Pine nuts	1 oz.	0.35mg
Lamb liver*	3 oz.	1mg	Walleye*	4 oz.	0.35mg
Barley*	1 cup	1mg	Brown rice*	1 cup	0.34mg
Kidney beans*	1 cup	1mg	Acorn squash*	1 cup	0.34mg
Pili nuts	1 cup	1mg	Lentils*	1 cup	0.33mg
Chickpeas*	1 cup	1mg	Bluefin tuna*	4 oz.	0.33mg
Cornmeal*	1 cup	1mg	Chicken liver*	4 oz.	0.32mg
Pork chop*	4 oz.	0.76mg	Chocolate Carnation		
Venison, ground*	4 oz.	0.57mg	Instant Breakfast	1 packet	0.30mg
Egg noodles*	1 cup	0.50mg	Asparagus*	1 cup	0.29mg
Flax seeds	1 oz.	0.50mg	Antelope*	4 oz.	0.29mg
Wheat germ	1 oz.	0.47mg	Caribou*	4 oz.	0.28mg
Sunflower seeds	1 oz.	0.47mg	Rye bread	2 slices	0.27mg
Mussels*	1 cup	0.45mg	Sesame seeds	¼ cup	0.25mg
Navy beans*	1 cup	0.43mg	Ostrich, ground*	4 oz.	0.24mg
Black beans*	1 cup	0.42mg	Quail*	4 oz.	0.24mg
Bagel, whole wheat	1 bagel	0.42mg	Pistachios	1 oz.	0.19mg
Macadamia nuts	1 cup	0.42mg	Yellowtail*	4 oz.	0.19mg
Bratwurst*	4 oz.	0.40mg	Sweet potato*	1 cup	0.19mg
Duck breast*	4 oz.	0.40mg	Whitefish*	4 oz.	0.19mg
Green peas*	1 cup	0.39mg	Pecans	1 oz.	0.18mg
Hemp seeds	3 Tbsp.	0.38mg	Trout*	4 oz.	0.16mg

Bison ribeye*	4 oz.	0.15mg	Pike*	4 oz.	0.07mg
Pepperoni	1 oz.	0.15mg	Pheasant*	4 oz.	0.07mg
Elk, ground*	4 oz.	0.14mg	Almonds	¼ cup	0.07mg
Sea Bass*	4 oz.	0.14mg	Cornish Game Hen*	4 oz.	0.07mg
Whole milk, raw	8 fl. oz.	0.12mg	Pollock*	4 oz.	0.06mg
Herring*	4 oz.	0.12mg	Red bell peppers	1 cup	0.05mg
Bear*	4 oz.	0.11mg	Moose*	4 oz.	0.05mg
Watercress	4 oz.	0.10mg	Cashews	1 oz.	0.05mg
Goat*	4 oz.	0.10mg	Wild blueberries	1 cup	0.04mg
Swordfish*	4 oz.	0.10mg	Peanut butter	1 oz.	0.04mg
Beef ribeye*	4 oz.	0.09mg	Eggs*	1 large	0.03mg
Grouper*	4 oz.	0.09mg	Bee pollen	1 tsp.	0.03mg
Perch*	4 oz.	0.09mg	Water buffalo*	4 oz.	0.03mg
Bacon*	1 oz.	0.09mg	Cacao powder	3 Tbsp.	0.01mg
Wild goose*	4 oz.	0.08mg	*cooked		
Turbot*	4 oz.	0.08mg			

### Vitamin B2 (Riboflavin)

Vitamin B2 is a water-soluble vitamin that is available in many foods and supplements. Our gut bacteria can make a small amount although it is not quite enough to be used sufficiently on a daily basis. This vitamin is a key part of coenzymes that support cell growth, energy production (carbohydrate metabolism), fertility, and fat metabolism.

Riboflavin may reduce oxidative stress and nerve inflammation, which are responsible for migraine headaches. In the future, riboflavin may be used to alleviate migraine headaches. Vitamin B2 can also treat cataracts, skin problems and anemia. Riboflavin works best with Vitamin B3, Vitamin B6, Vitamin C.

### Vitamin B2 is the most common vitamin deficiency in the U.S.

Vitamin B2 deficiency symptoms: dry lips, cracked skin, scaly patches on the head, angular cheilitis, fatigue, poor appetite, veganism, vegetarianism, pregnancy, drinking alcohol.

The best sources of Vitamin B2:

Tangy Tangerine 2.5	1 scoop	30mg	Quail*	4 oz.	0.33mg
Beef liver*	3 oz.	2.9mg	Bluefin tuna*	4 oz.	0.33mg
Oats	1 cup	1.1mg	Herring*	4 oz.	0.32mg
Skirt steak*	4 oz.	1mg	Passion fruit juice	8 fl. oz.	0.32mg
Caribou*	4 oz.	1mg	Mushrooms*	½ cup	0.30mg
Bear*	4 oz.	0.93mg	Almonds	1 oz.	0.30mg
Grapes	10 grapes	0.90mg	Grits*	1 cup	0.30mg
Antelope*	4 oz.	0.82mg	Ostrich, ground*	4 oz.	0.30mg
Kielbasa*	4 oz.	0.80mg	Shrimp*	4 oz.	0.30mg
Duck breast*	4 oz.	0.70mg	Bee pollen	1 tsp.	0.30mg
Goat*	4 oz.	0.68mg	Avocado	1 cup	0.29mg
Venison filet*	4 oz.	0.66mg	Water Buffalo*	4 oz.	0.28mg
Emu, ground*	4 oz.	0.61mg	Pollock*	4 oz.	0.25mg
Greek yogurt	1 cup	0.60mg	Asparagus*	1 cup	0.25mg
Mussels*	1 cup	0.59mg	Pork chop*	4 oz.	0.28mg
Clams*	4 oz.	0.53mg	Chicken breast*	4 oz.	0.28mg
Beef tenderloin*	4 oz.	0.52mg	Cornish Game Hen*	4 oz.	0.22mg
Pesto	¼ cup	0.50mg	Walleye*	4 oz.	0.22mg
Mackerel*	4 oz.	0.46mg	Sweet potato*	1 cup	0.21mg
Whole milk, raw	8 fl. oz.	0.42mg	Pheasant*	4 oz.	0.20mg
Spinach*	1 cup	0.40mg	Whole wheat bread	2 slices	0.20mg
Moose*	4 oz.	0.38mg	Eggs*	1 large	0.20mg
Venison, ground*	4 oz.	0.37mg	White rice*	1 cup	0.20mg
Wild goose*	4 oz.	0.36mg	Quinoa*	1 cup	0.20mg
Maple syrup	2 Tbsp.	0.36mg	Bagel	1 medium	0.20mg
Elk, ground*	4 oz.	0.36mg	Trout*	4 oz.	0.20mg
Bison ribeye*	4 oz.	0.34mg			

Chocolate Carnation			Mahi Mahi*	4 oz.	0.09mg
Instant Breakfast	1 packet	0.20mg	Red bell peppers	1 cup	0.08mg
Whitefish*	4 oz.	0.17mg	Tilapia*	4 oz.	0.08mg
Broccoli*	1 cup	0.17mg	Pike*	4 oz.	0.08mg
Sea Bass*	4 oz.	0.16mg	Monkfish*	4 oz.	0.08mg
Wild salmon*	4 oz.	0.16mg	Bacon*	1 oz.	0.07mg
Smelt*	4 oz.	0.16mg	Haddock*	4 oz.	0.07mg
Wild Boar*	4 oz.	0.15mg	Swordfish*	4 oz.	0.07mg
Watercress	4 oz.	0.13mg	Blueberries	1 cup	0.06mg
Perch*	4 oz.	0.13mg	Peanut butter	2 Tbsp.	0.06mg
Cod*	4 oz.	0.12mg	Parmesan	2 Tbsp.	0.05mg
Beefalo*	4 oz.	0.12mg	Yellowtail*	4 oz.	0.05mg
Turbot*	4 oz.	0.11mg	Chia seeds	1 oz.	0.04mg
Catfish*	4 oz.	0.11mg	Chickpeas*	1 cup	0.04mg
Spinach	1 cup	0.10mg	Cashews	1 oz.	0.03mg
Apple, with skin	1 large	0.10mg	Dark chocolate	1 oz.	0.02mg
Kidney beans*	1 cup	0.10mg	Potatoes*	1 cup	0.02mg
Macaroni*	1 cup	0.10mg	Savoy cabbage*	1 cup	0.02mg
Sunflower seeds	1 oz.	0.10mg	Lobster*	4 oz.	0.01mg
Swiss cheese	1 oz.	0.10mg	*cooked		
Tomatoes, canned	½ cup	0.10mg			

### Vitamin B3 (Niacin)

Niacin is a water-soluble vitamin that works in the body as a coenzyme to convert nutrients into energy, repair DNA and aids in fat metabolism. Vitamin B3 is used for easing indigestion, reducing high triglycerides, skin problems, migraines, heart problems, high blood pressure, diabetes and diarrhea.

With the help of Tryptophan, our bodies can make its own Niacin.

However, getting this vitamin from food is a better idea. Niacin is a key vitamin for producing hormones: estrogen, progesterone and testosterone.



Vitamin B3 deficiency symptoms: vomiting, fatigue, hallucinations, constipation, bright red tongue, suicidal behavior, mental confusion, scaly skin.

The best sources of Vitamin B3:

Tangy Tangerine 2.5	1 scoop	40mg	Water Buffalo*	4 oz.	7.13mg
Chicken breast*	4 oz.	19.20mg	Duck breast*	4 oz.	7.10mg
Beef liver*	4 oz.	14.9mg	Cornish Game Hen*	4 oz.	6.63mg
Kielbasa*	4 oz.	13.70mg	Caribou*	4 oz.	6.53mg
Turkey breast*	4 oz.	13.30mg	Beef ribeye*	4 oz.	6.28mg
Bluefin tuna*	4 oz.	11.93mg	Elk, ground*	4 oz.	6.03mg
Wild salmon*	4 oz.	11.46mg	Moose*	4 oz.	5.96mg
Swordfish*	4 oz.	10.49mg	Beefalo*	4 oz.	5.54mg
Venison, ground*	4 oz.	10.49mg	Tilapia*	4 oz.	5.29mg
Emu, ground*	4 oz.	10.12mg	Brown rice*	1 cup	5.17mg
Venison filet*	4 oz.	10mg	Marinara sauce	½ cup	5.15mg
Yellowtail*	4 oz.	9.88mg	Wild Boar*	4 oz.	4.77mg
Quail*	4 oz.	8.94mg	Wild goose*	4 oz.	4.70mg
Halibut*	4 oz.	8.93mg	Haddock*	4 oz.	4.56mg
Duck Breast*	4 oz.	8.90mg	Pollock*	4 oz.	4.51mg
Tuna, canned	3 oz.	8.60mg	Herring*	4 oz.	4.46mg
Pheasant*	4 oz.	8.50mg	Goat*	4 oz.	4.44mg
Mahi Mahi*	4 oz.	8.42mg	Whitefish*	4 oz.	4.36mg
Pork tenderloin*	4 oz.	8.40mg	Peanut butter	2 Tbsp.	4.21mg
Mackerel*	4 oz.	7.73mg	Avocado	1 cup	3.99mg
Beef, ground*	4 oz.	7.73mg	Bear*	4 oz.	3.79mg
Lamb, ground*	4 oz.	7.60mg	Walleye*	4 oz.	3.17mg
Bison ribeye*	4 oz.	7.58mg	Pike*	4 oz.	3.12mg
Ostrich, ground*	4 oz.	7.43mg	Turbot*	4 oz.	3.03mg
Rabbit*	4 oz.	7.22mg	Catfish*	4 oz.	3mg
Pork chop*	4 oz.	7.20mg	Bacon*	1 oz.	3mg

Chocolate Carnation			Red bell pepper	1 cup	0.90mg
Instant Breakfast	1 packet	3mg	Bulgur*	1 cup	0.90mg
Sweet potato*	1 cup	2.97mg	Wild blueberries	1 cup	0.85mg
Monkfish*	4 oz.	2.90mg	Banana	1 medium	0.83mg
Whole wheat bread	2 slices	2.8mg	Pineapple	1 cup	0.82mg
Chia seeds	1 oz.	2.5mg	Broccoli*	1 cup	0.80mg
White rice*	1 cup	2.3mg	Raisins	½ cup	0.60mg
Potatoes*	1 cup	2.3mg	Macadamia nuts	1 oz.	0.60mg
Sea Bass*	4 oz.	2.17mg	Tomatoes	½ cup	0.50mg
Lentils*	1 cup	2.09mg	Oranges	1 cup	0.50mg
Perch*	4 oz.	2.06mg	Grouper*	4 oz.	0.43mg
Sunflower seeds	1 oz.	2mg	Spinach*	1 cup	0.40mg
Bee pollen	1 tsp.	2mg	Greek yogurt	1 cup	0.30mg
Smelt*	4 oz.	2mg	Dark chocolate	1 oz.	0.29mg
Dover sole*	4 oz.	1.76mg	Cashews	1 oz.	0.26mg
Flounder*	4 oz.	1.41mg	Whole milk, raw	8 fl. oz.	0.22mg
Pumpkin seeds	1 oz.	1.3mg	Watercress	4 oz.	0.22mg
Peaches	1 cup	1.24mg	Apple	1 medium	0.20mg
Mushrooms*	1 oz.	1.21mg	Chickpeas*	1 cup	0.20mg
Navy beans*	1 cup	1.18mg	Eggs*	1 large	0.03mg
Almonds	1 oz.	1.03mg	Onions	½ cup	0.01mg
Scallops*	4 oz.	0.90mg	*cooked		

### Vitamin B5 (Pantothenic Acid)

Pantothenic Acid is a water-soluble vitamin that helps to make coenzyme A (CoA) to aid in fat metabolism. It is also useful for reducing LDL “bad” cholesterol levels. Vitamin B5 may be used to ward off stress, arthritis, infections, grey hair and skin problems.

Vitamin B5 deficiency symptoms: fatigue, depression, insomnia, vomiting, muscle cramps, upper respiratory infections, burning feet, stomach pain, seizures, scaly rash, cracked skin by the mouth, pins-and-needles sensation in the hands and feet.

The best sources of Vitamin B5:

Tangy Tangerine 2.5	1 scoop	150mg	Pork tenderloin*	4 oz.	1mg
Chicken liver*	3 oz.	6.90mg	Spirulina	1 oz.	1mg
Beef liver*	3 oz.	6mg	Sardines	1 cup	1mg
Shiitakes*	1 cup	5.20mg	Greek yogurt	1 cup	1mg
Emu, ground*	4 oz.	3.49mg	Acorn squash*	1 cup	1mg
Avocado	1 cup	3.40mg	Grouper*	4 oz.	0.98mg
Kielbasa*	4 oz.	2.30mg	Whitefish*	4 oz.	0.98mg
Duck breast*	4 oz.	2.10mg	Walleye*	4 oz.	0.98mg
Oats	1 cup	2.10mg	Mahi Mahi*	4 oz.	0.98mg
Sunflower seeds	1 oz.	2mg	Wild salmon*	4 oz.	0.92mg
Trout*	4 oz.	2.53mg	Whole milk, raw	8 fl. oz.	0.92mg
Lobster*	4 oz.	1.86mg	Chocolate Carnation		
Chicken breast*	4 oz.	1.80mg	Instant Breakfast	1 packet	0.90mg
Sweet potato*	1 cup	1.80mg	Venison, ground*	4 oz.	0.86mg
Chicken thigh*	4 oz.	1.70mg	Smelt*	4 oz.	0.83mg
Skirt steak*	4 oz.	1.53mg	Yellowtail*	4 oz.	0.77mg
Bluefin tuna*	4 oz.	1.53mg	Turbot*	4 oz.	0.74mg
Pork ribs*	4 oz.	1.46mg	Chickpeas*	1 cup	0.70mg
Ostrich, ground*	4 oz.	1.37mg	Eggs*	1 large	0.70mg
Lentils*	1 cup	1.30mg	Beef, ground*	4 oz.	0.68mg
Blue crab, canned	1 cup	1.30mg	Beefalo*	4 oz.	0.65mg
Elk, ground*	4 oz.	1.20mg	Turkey*	4 oz.	0.60mg
Sweet corn, raw	1 cup	1.20mg	Grapefruit	1 cup	0.60mg
Elk, ground*	4 oz.	1.19mg	Brown rice*	1 cup	0.60mg
Mackerel*	4 oz.	1.13mg	White rice*	1 cup	0.50mg
Pesto	¼ cup	1.10mg	Pumpkin, canned	½ cup	0.50mg
Mussels*	4 oz.	1.06mg	Swordfish*	4 oz.	0.47mg

Pollock*	4 oz.	0.46mg	Walnuts	1 oz.	0.20mg
Black beans*	1 cup	0.40mg	Molasses	2 Tbsp.	0.20mg
Orange	1 cup	0.40mg	Strawberries	1 cup	0.20mg
King crab*	4 oz.	0.40mg	Cashews	1 oz.	0.20mg
Banana	1 medium	0.40mg	Pecans	1 oz.	0.20mg
Kidney beans*	1 cup	0.40mg	Green peas*	1 cup	0.20mg
Watercress	4 oz.	0.35mg	Macadamia nuts	1 oz.	0.20mg
Dover sole*	4 oz.	0.31mg	Water Buffalo*	4 oz.	0.19mg
Broccoli*	½ cup	0.30mg	Monkfish*	4 oz.	0.19mg
Cauliflower*	½ cup	0.30mg	Blueberries	1 cup	0.18mg
Peanut butter	2 Tbsp.	0.30mg	Dark chocolate	1 oz.	0.11mg
Red bell peppers	1 cup	0.29mg	Pumpkins seeds	1 oz.	0.10mg
Bacon*	1 oz.	0.29mg	Parsley	1 oz.	0.10mg
Lobster*	4 oz.	0.28mg	*cooked		
Bee pollen	1 tsp.	0.25mg			

### Vitamin B6 (Pyridoxine)

Vitamin B6 (Pyridoxine) is a water-soluble vitamin that aids in the creation of glycogenolysis, gluconeogenesis, the myelin sheath, hemoglobin, serotonin and dopamine. It can also treat diabetes, stress, insomnia and motion sickness.

Vitamin B6 deficiency symptoms: anemia, depression, nausea, skin rashes.

The best sources of Vitamin B6:

Chickpeas*	1 cup	1.34mg	Quail*	4 oz.	0.70mg
Chicken breast*	4 oz.	1.06mg	Swordfish*	4 oz.	0.69mg
Emu, ground*	4 oz.	0.94mg	Pork chops*	4 oz.	0.66mg
Turkey breast*	4 oz.	0.93mg	Halibut*	4 oz.	0.66mg
Beef liver*	3 oz.	0.86mg	Wild salmon*	4 oz.	0.64mg
Pheasant*	4 oz.	0.84mg	Pork tenderloin*	4 oz.	0.60mg
Avocado	1 cup	0.70mg	Chicken thigh*	4 oz.	0.60mg

Coconut, shredded	1 cup	0.60mg	Wheat bran	1 oz.	0.36mg
Sweet potato*	1 cup	0.60mg	Lentils*	1 cup	0.35mg
Beef ribeye*	4 oz.	0.58mg	Cornish Game Hen*	4 oz.	0.34mg
Ostrich, ground*	4 oz.	0.56mg	Green peas*	1 cup	0.34mg
Venison, ground*	4 oz.	0.53mg	Chocolate Carnation		
Bison ribeye*	4 oz.	0.53mg	Instant Breakfast	1 packet	0.32mg
Skirt steak*	4 oz.	0.53mg	Bear*	4 oz.	0.32mg
Mahi Mahi*	4 oz.	0.52mg	Monkfish*	4 oz.	0.31mg
Water Buffalo*	4 oz.	0.52mg	Turbot*	4 oz.	0.27mg
Sea Bass*	4 oz.	0.51mg	Red bell peppers	1 cup	0.27mg
Chicken liver*	3 oz.	0.49mg	Butternut squash*	1 cup	0.25mg
Potatoes*	1 cup	0.49mg	Brown rice*	1 cup	0.24mg
Elk, ground*	4 oz.	0.47mg	Marinara sauce	½ cup	0.22mg
Wild Boar*	4 oz.	0.47mg	Sesame seeds	1 oz.	0.22mg
Banana	1 medium	0.46mg	Yellowtail*	4 oz.	0.21mg
Tuna*	3 oz.	0.44mg	Tilapia*	4 oz.	0.20mg
Moose*	4 oz.	0.42mg	Smelt*	4 oz.	0.19mg
Wild goose*	4 oz.	0.41mg	Onions	1 cup	0.19mg
Pistachios	¼ cup	0.40mg	Mango	1 cup	0.19mg
Acorn squash*	1 cup	0.39mg	Catfish*	4 oz.	0.19mg
Whitefish*	4 oz.	0.39mg	Pineapple	1 cup	0.18mg
Grouper*	4 oz.	0.39mg	Peanut butter	2 Tbsp.	0.17mg
Rabbit*	4 oz.	0.38mg	Hazelnuts	1 oz.	0.17mg
Pinto beans*	1 cup	0.38mg	Dover sole*	4 oz.	0.16mg
Pollock*	4 oz.	0.37mg	Walnuts	1 oz.	0.15mg
Herring*	4 oz.	0.37mg	Perch*	4 oz.	0.15mg
Haddock*	4 oz.	0.36mg	Pike*	4 oz.	0.15mg
Caribou*	4 oz.	0.36mg	Walleye*	4 oz.	0.15mg

Watercress	4 oz.	0.14mg	Papaya	1 cup	0.08mg
Black beans	1 cup	0.13mg	Blueberries	1 cup	0.08mg
Sweet corn, raw	1 cup	0.13mg	Bacon*	1 oz.	0.08mg
Cottage cheese	1 cup	0.12mg	Cantaloupe	1 cup	0.06mg
Flounder*	4 oz.	0.12mg	Watermelon	1 cup	0.06mg
Oranges	1 cup	0.10mg	Spinach	1 cup	0.06mg
Macadamia nuts	1 oz.	0.10mg	Eggs*	1 large	0.06mg
Bee pollen	1 tsp.	0.10mg	Pear	1 medium	0.05mg
Scallops*	4 oz.	0.09mg	Almonds	1 oz.	0.03mg
Apples	1 medium	0.08mg	Dark chocolate	1 oz.	0.01mg
Whole milk, raw	8 fl. oz.	0.08mg	*cooked		

### Vitamin B7 (Biotin)

Vitamin B7 (Biotin) is a water-soluble vitamin that enables fatty acid, amino acid and glucose metabolism. It is also crucial for strong hair, eyes, skin and nails.

Vitamin B7 deficiency symptoms: brittle nails, hair loss, skin rashes, skin infections, chronic fatigue, depression, hypotonia, hallucinations.

The best sources of Vitamin B7:

Tangy Tangerine 2.5	1 scoop	750mcg	Chocolate Carnation		
Chicken liver*	2.6 oz.	159mcg	Instant Breakfast	1 packet	8mcg
Rice bran	3 oz.	56mcg	Onions	1 cup	7.98mcg
Green peas*	1 cup	40mcg	Tomatoes	1 cup	7.2mcg
Lentils*	1 cup	40mcg	Peanuts*	¼ cup	6.4mcg
Oats	1 cup	31mcg	Carrots	1 cup	6.1mcg
Beef liver*	3 oz.	30mcg	Mushrooms	1 cup	5.9mcg
Pecans	¼ cup	28mcg	Walnuts	¼ cup	5.7mcg
Nutritional yeast	2 Tbsp.	21mcg	Avocado	1 cup	5.4mcg
Eggs	1 large	10mcg	Pork chops*	4 oz.	5mcg

Beef, ground*	4 oz.	5mcg	Strawberries	1 cup	1.58mcg
Sweet potatoes*	1 cup	4.8mcg	Watermelon	1 cup	1.52mcg
Whole milk, raw	8 fl. oz.	4.64mcg	Almonds	¼ cup	1.5mcg
Wild salmon*	4 oz.	4.54mcg	Cucumber	1 cup	0.94mcg
Greek yogurt	1 cup	3.92mcg	Tuna, canned	3 oz.	0.6mcg
Banana	1 medium	3.07mcg	Broccoli	½ cup	0.5mcg
Sunflower seeds	¼ cup	2.6mcg	Spinach*	½ cup	0.5mcg
Grapefruit	1 medium	2.56mcg	Cheddar cheese	1 oz.	0.4mcg
Raspberries	1 cup	2.34mcg	Whole wheat bread	2 slices	0.04mcg
Romaine lettuce	2 cups	1.79mcg	Bee pollen	1 tsp.	0.02mcg
Cauliflower*	1 cup	1.61mcg	*cooked		

### Vitamin B9 (Folate)

Vitamin B9 (Folate) is a water-soluble vitamin that is the key for red blood cell production, protein metabolism, amino acid synthesis and for proper neural tube formation in fetuses. Folate helps the body against coronary heart disease.

Vitamin B9 deficiency symptoms: fatigue, irritability, headaches, heart palpitations, anemia, shortness of breath, dizziness, red tongue, depression, neural tube defect in infants of folate-deficient mothers, panic attacks, anxiety.

The best sources of Vitamin B9:

Tangy Tangerine 2.5	1 scoop	667mcg	Black eyed peas*	1 cup	209mcg
Chicken liver*	3 oz.	494mcg	Avocado	1 cup	186mcg
Lentils*	1 cup	358mcg	Turnip greens*	1 cup	171mcg
Pinto beans*	1 cup	294mcg	Beets*	1 cup	134mcg
Chickpeas*	1 cup	282mcg	Egg noodles*	1 cup	134mcg
Asparagus*	1 cup	268mcg	Green peas*	1 cup	100mcg
Spinach*	1 cup	262mcg	Wheat germ	1 oz.	99mcg
Black beans*	1 cup	256mcg	Chocolate Carnation		
Kidney beans*	1 cup	230mcg	Instant Breakfast	1 packet	90mcg
Beef liver*	4 oz.	292mcg	Broccoli*	1 cup	86mcg

Brussels sprouts*	1 cup	83mcg	Walleye*	4 oz.	19mcg
Cauliflower*	1 cup	78mcg	Pike*	4 oz.	19mcg
Quinoa*	1 cup	77mcg	Brown rice*	1 cup	18mcg
Mango	1 cup	70mcg	Ostrich, ground*	4 oz.	15.88mcg
Sunflower seeds	1 oz.	66mcg	Haddock*	4 oz.	15mcg
Sweet corn, raw	1 cup	63mcg	Almonds	1 oz.	15mcg
Spinach, raw	1 cup	58mcg	Wild salmon*	4 oz.	14mcg
Oranges	1 cup	54mcg	Catfish*	4 oz.	13mcg
Parsley	1 oz.	43mcg	Chia seeds	1 oz.	13mcg
Red bell peppers, raw	1 cup	42mcg	Whole milk, raw	8 fl. oz.	12mcg
Peanuts	1 oz.	34mcg	Sweet potato*	1 cup	12mcg
Hemp seeds	3 Tbsp.	33mcg	Herring*	4 oz.	12mcg
Tilapia*	4 oz.	30mcg	Grouper*	4 oz.	11mcg
Walnuts	¼ cup	29mcg	Watercress	4 oz.	10mcg
Sesame seeds	1 oz.	27mcg	Water Buffalo*	4 oz.	10mcg
Yogurt	1 cup	27mcg	Antelope*	4 oz.	10mcg
Tomato	1 cup	27mcg	Turbot*	4 oz.	10mcg
Romaine lettuce	2 cups	26mcg	Emu, ground*	4 oz.	10mcg
Banana	1 medium	25mcg	Venison, ground*	4 oz.	9mcg
Oats	1 cup	25mcg	Rabbit*	4 oz.	9mcg
Flax seeds	1 oz.	24mcg	Elk, ground*	4 oz.	9mcg
Grapefruit	1 cup	23mcg	Monkfish*	4 oz.	9mcg
Eggs*	1 large	22mcg	Blueberries	1 cup	8mcg
Cantaloupe	1 cup	21mcg	Beef ribeye*	4 oz.	7mcg
Scallops*	4 oz.	20mcg	Quail*	4 oz.	6.80mcg
Bison ribeye*	4 oz.	20mcg	Wild Boar*	4 oz.	6.80mcg
Beefalo*	4 oz.	2cg	Sea Bass*	4 oz.	6.80mcg
Whitefish*	4 oz.	19mcg	Perch*	4 oz.	6mcg



Flounder*	4 oz.	6mcg	Macadamia nuts	1 oz.	2mcg
Mahi Mahi*	4 oz.	6mcg	Butter	2 Tbsp.	0.85mcg
Bear*	4 oz.	6mcg	Bacon*	1 oz.	0.57mcg
Cacao powder	3 Tbsp.	5mcg	Bee pollen	1 tsp.	0.15mcg
Moose*	4 oz.	4mcg	*cooked		

### Vitamin B12 (Cobalamin)

Vitamin B12 (Cobalamin) is a water-soluble vitamin that aids in red blood cell production, increases energy levels, alleviates depression, slows down macular degeneration, strengthens bones, improves nerve function along with protein, carbohydrate and fat metabolism.

Vitamin B12 needs to be taken with calcium to properly absorb.

Vitamin B12 deficiency may take up to 3-5 years to appear since it is slow to deplete the body's B12 reserve.

Vitamin B12 deficiency symptoms: being a hardcore vegan, mouth ulcers, inflamed tongue, depression, dementia, anemia, fatigue, shortness of breath, tingling sensation in the hands and feet, loss of reflexes, confusion, difficulty walking.

The best sources of Vitamin B12:

Tangy Tangerine 2.5	1 scoop	1,000mcg	Sardines	4 oz.	10.14mcg
Clams*	4 oz.	112mcg	Emu, ground*	4 oz.	9.66mcg
Beef liver*	4 oz.	93.49mcg	Skirt steak*	4 oz.	8.53mcg
Lamb liver*	4 oz.	65.2mcg	Caribou*	4 oz.	7.50mcg
Mackerel*	4 oz.	43mcg	Rabbit*	4 oz.	7.35mcg
Nutritional yeast**	1 Tbsp.	33.78mcg	Moose*	4 oz.	7.16mcg
Oysters*	4 oz.	32mcg	Ostrich, ground*	4 oz.	6.51mcg
Mussels*	4 oz.	27mcg	Wild salmon*	4 oz.	5.67mcg
Bluefin tuna*	4 oz.	24mcg	Trout*	4 oz.	5.22mcg
Clams*	4 oz.	22.93mcg	Beef tenderloin*	4 oz.	5.20mcg
Chicken liver*	4 oz.	17.09mcg	Herring, pickled	4 oz.	4.84mcg
Herring*	4 oz.	16.10mcg	Elk, ground*	4 oz.	4.82mcg
King crab*	4 oz.	13.04mcg	Smelt*	4 oz.	4.50mcg

Pollock*	4 oz.	4.17mcg	Bison ribeye*	4 oz.	1.46mcg
Venison filet*	4 oz.	4.13mcg	Flounder*	4 oz.	1.45mcg
Liverwurst	1 oz.	3.82mcg	Yellowtail*	4 oz.	1.42mcg
Catfish*	4 oz.	3.49mcg	Greek yogurt	1 cup	1.37mcg
Beef, ground*	4 oz.	3.16mcg	Shrimp*	4 oz.	1.23mcg
Lamb, ground*	4 oz.	2.93mcg	Monkfish*	4 oz.	1.18mcg
Elk, ground*	4 oz.	2.91mcg	Whole milk, raw	8 fl. oz.	1.10mcg
Beefalo*	4 oz.	2.89mcg	Whitefish*	4 oz.	1.09mcg
Turbot*	4 oz.	2.88mcg	Lobster*	4 oz.	0.96mcg
Lamb chop*	4 oz.	2.83mcg	Ham*	4 oz.	0.81mcg
Bear*	4 oz.	2.80mcg	Wild Boar*	4 oz.	0.79mcg
Bison, ground*	4 oz.	2.77mcg	Grouper*	4 oz.	0.78mcg
Beef ribeye*	4 oz.	2.69mcg	Mahi Mahi*	4 oz.	0.78mcg
Venison, ground*	4 oz.	2.63mcg	Haddock*	4 oz.	0.56mcg
Walleye*	4 oz.	2.62mcg	Eggs*	1 large	0.55mcg
Pike*	4 oz.	2.57mcg	Chicken thighs*	4 oz.	0.53mcg
Perch*	4 oz.	2.44mcg	Quail*	4 oz.	0.41mcg
Cod*	4 oz.	2.40mcg	Sea Bass*	4 oz.	0.39mcg
Haddock*	4 oz.	2.35mcg	Bacon*	1 oz.	0.33mcg
Tilapia*	4 oz.	2.03mcg	Cornish Game Hen*	4 oz.	0.32mcg
Water Buffalo*	4 oz.	1.98mcg	Cheddar cheese	1 oz.	0.30mcg
Dover sole*	4 oz.	1.92mcg	Chocolate Carnation		
Turkey*	4 oz.	1.87mcg	Instant Breakfast	1 packet	0.30mcg
Swordfish*	4 oz.	1.84mcg	Dark chocolate	1 oz.	0.08mcg
Scallops*	4 oz.	1.81mcg	Butter	2 Tbsp.	0.05mcg

\*cooked, \*\*fortified

## Choline

Choline is a water-soluble vitamin that helps the blood move fats and cholesterol from our liver to cells throughout the body. It is also “food” for our gut bacteria. Choline is crucial for energy production, maintaining a healthy metabolism and brain development.

Choline deficiency symptoms: lack of concentration, low energy, cognitive sluggishness.

The best sources of Choline:

Beef liver*	4 oz.	479mg	Herring*	4 oz.	90mg
Eggs*	1 large	146mg	Skirt steak*	4 oz.	88mg
Rabbit*	4 oz.	146mg	Swordfish*	4 oz.	87mg
Caribou*	4 oz.	138mg	Scallops*	4 oz.	87mg
Bear*	4 oz.	138mg	Sea Bass*	4 oz.	86mg
Wild Boar*	4 oz.	133mg	Halibut*	4 oz.	85mg
Chicken breast*	4 oz.	132mg	Beef filet*	4 oz.	83mg
Moose*	4 oz.	130mg	Beef, ground*	4 oz.	82mg
Ham*	4 oz.	124mg	Wild salmon*	4 oz.	81mg
Goat*	4 oz.	119mg	Wild goose*	4 oz.	75mg
Venison, ground*	4 oz.	115mg	Ostrich, ground*	4 oz.	74mg
Bison, ground*	4 oz.	110mg	Quail*	4 oz.	74mg
Dover sole*	4 oz.	110mg	Cauliflower*	1 cup	71mg
Lamb, ground*	4 oz.	105mg	Chickpeas*	1 cup	70mg
Pork tenderloin*	4 oz.	100mg	Lentils*	1 cup	64mg
Pheasant*	4 oz.	96mg	Brussels sprouts*	1 cup	63mg
Haddock*	4 oz.	92mg	Cornish Game Hen*	4 oz.	63mg
Catfish*	4 oz.	92mg	Broccoli*	1 cup	62mg
Perch*	4 oz.	92mg	Tilapia*	4 oz.	60mg
Pike*	4 oz.	92mg	Black beans*	1 cup	60mg
Flounder*	4 oz.	92mg	Pinto beans*	1 cup	60mg
Mackerel*	4 oz.	91mg	Black eyed peas*	1 cup	55mg
Lobster*	4 oz.	91mg	Green peas*	1 cup	47mg

Kidney beans*	1 cup	45mg	Cashews	1 oz.	11mg
Whole milk, raw	8 fl. oz.	34mg	Carrots	1 cup	11mg
Bacon*	1 oz.	33mg	Watercress	4 oz.	10mg
Avocado	1 cup	32mg	Nectarines	1 cup	9mg
Asparagus*	1 cup	30mg	Peaches	1 cup	9mg
Sweet potato*	1 cup	26mg	Pineapple	1 cup	9mg
Flax seeds	1 oz.	22mg	Blueberries	1 cup	8mg
Peanut butter	2 Tbsp.	20mg	Strawberries	1 cup	8mg
Chocolate Carnation			Grapes	1 cup	8mg
Instant Breakfast	1 packet	20mg	Lard	1 Tbsp.	6mg
Savoy cabbage*	1 cup	19mg	Pears	1 cup	6mg
Cottage cheese	½ cup	18mg	Butter	2 Tbsp.	5mg
Marinara	½ cup	18mg	Red bell peppers	1 cup	5mg
Pine nuts	1 oz.	15mg	Pumpkin, canned	½ cup	5mg
Raspberries	1 cup	15mg	Romaine lettuce	1 cup	4mg
Sauerkraut	1 cup	14mg	Kimchi	1 oz.	4mg
Almonds	1 oz.	14mg	Celery	1 large stalk	3mg
Kiwi	1 cup	14mg	Cranberries, dried	¼ cup	3mg
Macadamia nuts	1 oz.	12mg	Prunes	1 oz.	2mg
Mango	1 cup	12mg	Cacao powder	3 Tbsp.	2mg
Miso paste	1 Tbsp.	12mg	*cooked		
Blackberries	1 cup	12mg			

### Vitamin C (Ascorbic Acid)

Vitamin C (Ascorbic Acid) is a water-soluble vitamin that is used for the synthesis of L-carnitine, norepinephrine and collagen (the protein that holds our body together). This vitamin is one of the most powerful antioxidants which may help treat eye problems, lower blood pressure, viral and bacterial infections, diabetes, heart disease, scurvy, cancer, inflammation and lead poisoning.

Vitamin C helps with the formation of collagen, a structural protein that holds our bodies together. Collagen is responsible for strong bones, skin, teeth, gums and blood vessels.

Vitamin C aids in the absorption of iron.

It is also important for neutralizing free radicals in the body. Many thanks to the late Linus Pauling for his remarkable work in the field of Vitamin C. As for Vitamin C, effectiveness dramatically increases with calcium, copper, iron and sodium.

Humans cannot synthesize their own Vitamin C. Therefore, we must get Vitamin C from food and supplements.

Vitamin C deficiency symptoms: hair loss, bleeding gums, skin spots, fatigue, scurvy, lowered immunity to infection, slower wound healing, gingivitis, nosebleeds, weight gain, dry skin, painful joints.

The best sources of Vitamin C:

Acerola cherry juice	1 cup	3,872mg	Chocolate Carnation		
Tangy Tangerine 2.5	1 scoop	1,250mg	Instant Breakfast	1 packet	90mg
Guavas	1 cup	376mg	Green bell peppers	1 large	80mg
Yellow bell peppers	1 large	341mg	Pineapple	1 cup	78mg
Camu powder	1 ½ Tbsp.	240mg	Cauliflower*	1 cup	65mg
Black currants	1 cup	202mg	Mango	1 cup	60mg
Red bell peppers	1 cup	191mg	Grapefruit	1 cup	87mg
Kiwi	1 cup	134mg	Tangerines	1 cup	52mg
Orange bell peppers	1 large	127mg	Watercress	4 oz.	48mg
Orange juice, fresh	8 fl. oz.	124mg	Thyme, raw	1 oz.	45mg
Broccoli*	1 cup	122mg	Parsley, raw	1 oz.	37mg
Brussels sprouts*	1 cup	116mg	Black raspberries	1 cup	35mg
Lemons	1 cup	106mg	Red raspberries	1 cup	32mg
Black currants, raw	½ cup	101mg	Cabbage	1 cup	32mg
Papaya	1 cup	100mg	Butternut squash*	1 cup	31mg
Oranges	1 large	97mg	Blackberries	1 cup	30mg
Strawberries	1 cup	97mg	Honeydew melon	1 cup	27mg

Tomatoes	1 cup	24mg	Yellowtail*	4 oz.	3.3mg
Chicken liver*	3 oz.	23mg	Duck Breast*	4 oz.	3.2mg
Avocado	1 cup	23mg	Pheasant*	4 oz.	2.60mg
Cabbage*	1 cup	48mg	Quail*	4 oz.	2.60mg
Potatoes*	1 cup	20mg	Perch*	4 oz.	2.5mg
Cantaloupe	1 cup	16mg	Garlic, raw	1 oz.	2mg
Apricots	1 cup	15mg	Bee pollen	1 tsp.	2mg
Plums	1 cup	14mg	Turbot*	4 oz.	2mg
Blueberries	1 cup	14mg	Herring*	4 oz.	1.40mg
Asparagus*	1 cup	13mg	Monkfish*	4 oz.	1.10mg
Persimmon	1 fruit	12mg	Wild salmon*	4 oz.	1mg
Watermelon	1 cup	12mg	Scallops*	4 oz.	0.60mg
Banana	1 medium	11mg	Sea Bass*	4 oz.	0.60mg
Bartlett pear	1 large	10mg	Haddock*	4 oz.	0.60mg
Apples	1 large	10mg	Flounder*	4 oz.	0.60mg
Beefalo*	4 oz.	10mg	Catfish*	4 oz.	0.60mg
Pomegranate	½ cup	8mg	Cornish Game Hen*	4 oz.	0.60mg
Carrots	1 cup	8mg	Chia seeds	1 oz.	0.50mg
Moose*	4 oz.	5.7mg	Macadamia nuts	1 oz.	0.20mg
Pike*	4 oz.	5mg	Flax seeds	1 oz.	0.20mg
Grapes	1 cup	4mg	Poppy seeds	1 Tbsp.	0.10mg
Caribou*	4 oz.	3.4mg	*cooked		

### Vitamin D (D2-Ergocalciferol, D3-Cholecalciferol)

Vitamin D is a fat-soluble steroid hormone precursor that comes from food, supplements and from sunlight with the help of CHOLESTEROL. D2 comes from plants and mushrooms and D3 is synthesized in the skin after getting sun exposure and found in meats. Both are converted into calcidiol in the liver and into calcitriol through a process called Vitamin D synthesis.

Vitamin D can be stored in the liver for up to 100 days.

It is important to note that there are 6 types of skin. The darker the skin (melanin content), the more sun (Vitamin D) that you will need. People with very dark skin only produce 1/6<sup>th</sup> of the Vitamin D compared to fair-skinned people at the same time.

“High noon” is the best time of the day to soak up the sun. Extensive studies have been done in Oslo, Norway where study participants were in the midday summer sunlight for 30 minutes. This was equivalent to 250-500 mcg of Vitamin D. On average, 10-30 minutes of sunlight three times per week, between 10 AM – 3 PM, would be sufficient for proper Vitamin D levels. Even spending a few minutes in the sun is throughout the week is beneficial.

For best results, run around outside with no shirt on. No one is going to get enough sunlight from a little bit on their arms or face. The more skin that you expose to midday sun, the better.

Vitamin D helps to maintain a strong immune system, helps to regulate glucose levels and promotes the absorption of calcium and phosphorus in our small intestine and bones. Vitamin D improves brain function in the elderly. Vitamin D may reduce your risk for various cancers (breast, colon, ovarian and prostate) and Alzheimer’s disease. When Vitamin D is taken with Vitamin A & C, it may prevent the common cold and flu.

Vitamin D works very well with CHOLESTEROL, Vitamin A, C, choline, phosphorus, calcium, copper, magnesium, selenium and sodium.

Vitamin D deficiency symptoms: rickets, pregnant women, osteoporosis, cancer, depression, arthritis, diabetes, weak muscles, lactose intolerance, following a vegan or vegetarian diet, celiac disease, working the overnight shift, IBS, obesity.

To check for a deficiency, have your doctor administer a serum 25-hydroxyvitamin D test.

Outside of SUNLIGHT, these are the next best sources of Vitamin D:

Tangy Tangerine 2.5	1 scoop	25mcg	Wild coho salmon*	4 oz.	10.20mcg
Trout*	4 oz.	22mcg	Sea Bass*	4 oz.	8.05mcg
Swordfish*	4 oz.	19.84mcg	Chocolate Carnation		
Mackerel*	4 oz.	19.05mcg	Instant Breakfast	1 packet	7mcg
Wild sockeye salmon*	4 oz.	18.94mcg	Halibut*	4 oz.	6.53mcg
Swordfish*	4 oz.	18.82mcg	Tuna, blue fin*	4 oz.	6.46mcg
Pompano*	4 oz.	15.76mcg	Herring*	4 oz.	5.78mcg
Sturgeon*	4 oz.	14.28mcg	Rockfish*	4 oz.	5.21mcg
Barracuda*	4 oz.	13.04mcg	Dover sole*	4 oz.	4.76mcg
Lard**	1 Tbsp.	12.5-25mcg	Tilapia*	4 oz.	4.42mcg
Cod liver oil	1 tsp.	11.25mcg	Perch*	4 oz.	4.31mcg

Sardines, canned	3 oz.	4.08mcg	Queso Blanco cheese	1 oz.	0.20mcg
Flounder*	4 oz.	3.86mcg	Cheddar cheese	1 oz.	0.17mcg
Pike*	4 oz.	3.52mcg	Muenster cheese	1 oz.	0.17mcg
Morel mushrooms	1 cup	3.40mcg	Monterey cheese	1 oz.	0.17mcg
Herring, pickled	4 oz.	3.18mcg	Gruyere cheese	1 oz.	0.17mcg
Whole milk, raw	8 fl. oz.	3.10mcg	Fontina cheese	1 oz.	0.17mcg
Whole milk yogurt	1 cup	2.94mcg	Colby cheese	1 oz.	0.17mcg
Halloumi cheese	1 oz.	2.20mcg	Colby jack cheese	1 oz.	0.17mcg
Whiting*	4 oz.	2.04mcg	Goat cheese	1 oz.	0.14mcg
Pork ribs*	4 oz.	1.47mcg	Brie cheese	1 oz.	0.14mcg
Pepperoni	4 oz.	1.47mcg	Romano cheese	1 oz.	0.14mcg
Anchovy, canned	3 oz.	1.45mcg	Edam cheese	1 oz.	0.14mcg
Beef liver*	4 oz.	1.35mcg	Gouda cheese	1 oz.	0.14mcg
Eggs*	1 large	1.07mcg	Provolone cheese	1 oz.	0.13mcg
Bratwurst*	4 oz.	0.93mcg	Parmesan cheese	1 oz.	0.13mcg
Ham*	4 oz.	0.91mcg	Feta cheese	1 oz.	0.11mcg
Knackwurst*	4 oz.	0.79mcg	Camembert cheese	1 oz.	0.11mcg
Cod*	4 oz.	0.68mcg	Ostrich, ground*	4 oz.	0.11mcg
Haddock*	4 oz.	0.68mcg	Wild goose*	4 oz.	0.11mcg
Pork chops*	4 oz.	0.56mcg	Lamb, ground*	4 oz.	0.11mcg
Butter	2 Tbsp.	0.44mcg	Cornish Game Hen*	4 oz.	0.11mcg
Catfish*	4 oz.	0.34mcg	Mozzarella cheese	1 oz.	0.11mcg
Pheasant*	4 oz.	0.23mcg	Beef ribeye*	4 oz.	0.10mcg
Quail*	4 oz.	0.23mcg	Ricotta cheese	1 oz.	0.06mcg
Shiitake mushrooms	1 oz.	0.20mcg	Beef, ground*	4 oz.	0.05mcg

\*cooked, \*\*from pasture-raised pigs



## Vitamin E

Vitamin E is a fat-soluble vitamin that acts as an anti-aging antioxidant that eliminates the free radicals in the body. This vitamin also improves blood circulation. Vitamin E is best combined with calcium, iron, manganese, phosphorus, potassium, selenium, sodium and zinc.

Vitamin E deficiency symptoms: muscle weakness, nerve damage, poor coordination when walking, vision problems, Alzheimer's disease, heart disease.

The best sources of Vitamin E:

Tangy Tangerine 2.5	1 scoop	40mg	Broccoli*	1 cup	2.30mg
Almond butter	2 Tbsp.	7.80mg	Kale*	1 cup	2.10mg
Sunflower seeds	1 oz.	7.40mg	Olive oil	1 Tbsp.	2.01mg
Almonds	1 oz.	6.80mg	Paprika	1 Tbsp.	2mg
Avocado	1 cup	4.76mg	Bee pollen	1 tsp.	2mg
Pesto	¼ cup	4.60mg	Herring*	4 oz.	1.98mg
Wheat germ	1 oz.	4.53mg	Wild goose*	4 oz.	1.96mg
Hazelnuts	1 oz.	4.33mg	Red bell pepper	1 cup	1.90mg
Grapeseed oil	1 Tbsp.	3.90mg	Blackberries	1 cup	1.70mg
Spinach*	1 cup	3.70mg	Pumpkin, canned	½ cup	1.63mg
Chocolate Carnation			Brazil nuts	1 oz.	1.60mg
Instant Breakfast	1 packet	3mg	Pinto beans*	1 cup	1.60mg
Peanut butter	2 Tbsp.	2.90mg	Carrots*	1 cup	1.60mg
Black beans*	1 cup	2.81mg	Mango	1 cup	1.50mg
Sweet potato*	1 cup	2.80mg	Rice bran	1 oz.	1.39mg
Swordfish*	4 oz.	2.73mg	Apricot	1 cup	1.38mg
Pine nuts	1 oz.	2.70mg	Sea Bass*	4 oz.	1.20mg
Asparagus*	1 cup	2.70mg	Catfish*	4 oz.	1.16mg
Butternut squash*	1 cup	2.64mg	Watercress	4 oz.	1.13mg
Kiwi	1 cup	2.60mg	Peaches	1 cup	1.13mg
Shrimp*	4 oz.	2.53mg	Raspberries	1 cup	1.07mg
Blue crab, canned	1 cup	2.50mg	Dover sole*	4 oz.	1.07mg

Wild salmon*	4 oz.	1.06mg	Orange	1 cup	0.32mg
Tomatoes	1 cup	0.97mg	Pheasant*	4 oz.	0.31mg
Flounder*	4 oz.	0.91mg	Perch*	4 oz.	0.28mg
Eggs*	1 large	0.87mg	Emu, ground*	4 oz.	0.27mg
Blueberries	1 cup	0.84mg	Ostrich, ground*	4 oz.	0.27mg
Green peas*	1 cup	0.81mg	Whole milk, raw	8 fl. oz.	0.26mg
Quail*	4 oz.	0.79mg	Hemp seeds	3 Tbsp.	0.24mg
Venison, ground*	4 oz.	0.77mg	Bison ribeye*	4 oz.	0.24mg
Butter	2 Tbsp.	0.66mg	Grapefruit	1 cup	0.23mg
Elk, ground*	4 oz.	0.65mg	Lentils*	1 cup	0.22mg
Haddock*	4 oz.	0.65mg	Parsley	1 oz.	0.21mg
Spinach	1 cup	0.61mg	Macadamia nuts	1 oz.	0.20mg
Chickpeas*	1 cup	0.58mg	Walnuts	1 oz.	0.20mg
Tilapia*	4 oz.	0.58mg	Dark chocolate	1 oz.	0.17mg
Bear*	4 oz.	0.56mg	Poppy seeds	1 oz.	0.16mg
Cashews	1 oz.	0.50mg	Pears	1 cup	0.15mg
Papaya	1 cup	0.49mg	Chia seeds	1 oz.	0.14mg
Scallops*	4 oz.	0.49mg	Beef ribeye*	4 oz.	0.14mg
Caribou*	4 oz.	0.45mg	Banana	1 medium	0.13mg
Cornish Game Hen*	4 oz.	0.41mg	Sweet corn, raw	1 cup	0.11mg
Goat*	4 oz.	0.39mg	Flax seeds	1 oz.	0.09mg
Brown rice*	1 cup	0.33mg	*cooked		

### Vitamin K

Vitamin K (K1-Phylloquinone, K2-Menaquinone) is a fat-soluble vitamin that aids in blood clotting and maintaining proper bone strength. K1 is found mostly in green leafy vegetables. K2 is found in animal foods, fermented and it can be produced by our internal bacteria.

Vitamin K is concentrated mainly in our bones, brains, heart, liver and pancreas.

Vitamin K deficiency symptoms: easy bruising, bloody urine, bloody stool, heavy menstruation, excessive bleeding.

The best sources of Vitamin K:

Spinach*	1 cup	1,019mcg			
Parsley	1 oz.	464mcg	Blueberries	1 cup	28mcg
Mustard greens*	1 cup	405mcg	Kiwi	1 medium	28mcg
Collard greens*	1 cup	609mcg	Red cabbage	1 cup	27mcg
Swiss chard*	1 cup	572mcg	Cauliflower*	1 cup	25mcg
Brussels sprouts*	1 cup	284mcg	Grapes	1 cup	22mcg
Watercress	4 oz.	283mcg	Pumpkin, canned	½ cup	21mcg
Kale*	1 cup	543mcg	Carrots*	1 cup	21mcg
Turnip greens*	1 cup	531mcg	Celery	1 large stalk	18mcg
Broccoli*	1 cup	220mcg	Marinara	½ cup	18mcg
Spinach, raw	1 cup	145mcg	Dried thyme	1 tsp.	17mcg
Cabbage*	1 cup	163mcg	Prunes	1 oz.	16mcg
Broccoli, raw	1 cup	89mcg	Carrots, raw	1 cup	16mcg
Asparagus*	1 cup	87mcg	Pine nuts	1 oz.	15mcg
Kiwi	1 cup	72mcg	Kidney beans*	1 cup	15mcg
Black eyed peas*	1 cup	63mcg	Chives	2 Tbsp.	12mcg
Cabbage, raw	1 cup	53mcg	Kimchi	1 oz.	12mcg
Cucumber	1 large	49mcg	Scallions	1 Tbsp.	12mcg
Avocado	1 cup	48mcg	Basil, dried	1 tsp.	12mcg
Romaine lettuce	1 cup	48mcg	Cashews	1 oz.	9mcg
Green peas*	1 cup	47mcg	Plums	1 cup	9mcg
Tangy Tangerine 2.5	1 scoop	40mcg	Mackerel*	4 oz.	9mcg
Sauerkraut	1 cup	31mcg	Raspberries	1 cup	9mcg
Chocolate Carnation			Olive oil	1 Tbsp.	8mcg
Instant Breakfast	1 packet	30mcg	Mango	1 cup	6mcg
Blackberries	1 cup	29mcg	Chickpeas	1 cup	6mcg

Kelp	2 Tbsp.	6mcg	Cranberries, dried	¼ cup	3mcg
Natto	1 oz.	6mcg	Catfish*	4 oz.	2.9mcg
Oregano, dried	1 tsp.	6mcg	Cornish Game Hen*	4 oz.	2.7mcg
Black beans*	1 cup	6mcg	Beef, ground*	4 oz.	2mcg
Herring*	4 oz.	5.2mcg	Bear*	4 oz.	2mcg
Pears	1 cup	5mcg	Dark chocolate	1 oz.	2mcg
Miso paste	1 Tbsp.	5mcg	Butter	2 Tbsp.	2mg
Scallops*	4 oz.	4.90mcg	Venison, ground*	4 oz.	1.6mcg
Quail*	4 oz.	4.80mcg	Bison, ground*	4 oz.	1mcg
Dill pickles	1 oz.	4mcg	Raisins	1 oz.	1mcg
Ostrich, ground*	4 oz.	4mcg	Whole milk, raw	8 fl. oz.	0.74mcg
Sweet potato*	1 cup	4mcg	Eggs*	1 large	0.15mcg
Red bell peppers	1 cup	4mcg	Wild salmon*	4 oz.	0.11mcg
Emu, ground*	4 oz.	4mcg	*cooked		
Beef liver*	4 oz.	3mcg			

## Minerals

Overall, vitamins often take the spotlight while minerals tend to get put in the backseat. Minerals are inorganic substances that are found in soil and water. They are absorbed into plants and also consumed by animals. The human body can synthesize a few vitamins, but it cannot make its own minerals. Minerals are crucial for life.

### Major Minerals (Electrolytes)

#### Calcium

Calcium is a mineral that strengthens our bones, teeth, nerves, muscles, gut, heart and blood vessels. It is instrumental in blood coagulation, muscle contraction, hormone secretion, intercellular nerve communication and carbohydrate metabolism. Calcium may prevent osteoporosis, relieve arthritis, and relieve insomnia. This mineral is crucial in the fight against obesity, colon cancer and heart issues.

Calcium deficiency symptoms: abnormal heart rate, high blood pressure, indigestion, numbness or tingling in fingers, lack of appetite, muscle cramps, you are a vegan or a vegetarian, lactose intolerance, osteoporosis, IBS, celiac disease.

The best sources of Calcium:

Kale*	1 cup	353mg	Perch*	4 oz.	114mg
Sardines	3 oz.	324mg	Chickpeas	1 cup	104mg
Ricotta cheese	½ cup	305mg	Parmesan	2 Tbsp.	88mg
Romano cheese	1 oz.	301mg	Pinto beans*	½ cup	87mg
Gruyere cheese	1 oz.	286mg	Pollock*	4 oz.	87mg
Greek yogurt	1 cup	278mg	Smelt*	4 oz.	87mg
Whole milk, raw	8 fl. oz.	276mg	Butternut squash*	1 cup	84mg
Swiss cheese	1 oz.	252mg	Goat cheese	1 oz.	84mg
Spinach*	1 cup	244mg	Pike*	4 oz.	81mg
Cottage cheese	1 cup	232mg	Herring*	4 oz.	79mg
Provolone cheese	1 oz.	214mg	Almonds	1 oz.	76mg
Muenster cheese	1 oz.	203mg	Sweet potato*	1 cup	76mg
Cheddar cheese	1 oz.	200mg	Broccoli*	1 cup	75mg
Chocolate Carnation			Oranges	1 cup	72mg
Instant Breakfast	1 packet	200mg	Kiwi	1 cup	63mg
Gouda cheese	1 oz.	198mg	Wild salmon*	4 oz.	51mg
Bok choi*	1 cup	185mg	Black eyed peas*	1 cup	44mg
Chia seeds	1 oz.	178mg	Kidney beans*	½ cup	43mg
Tangy Tangerine	2.5		Carrots	1 cup	42mg
	1 scoop	170mg	Blackberries	1 cup	41mg
Walleye*	4 oz.	159mg	Whitefish*	4 oz.	37mg
Mozzarella	1 oz.	143mg	Beef, ground*	4 oz.	36mg
Watercress	4 oz.	136mg	Marinara	½ cup	34mg
Pesto	¼ cup	132mg	Yellowtail*	4 oz.	32mg
Poppy seeds	1 Tbsp.	126mg	Pumpkin	½ cup	31mg

Raspberries	1 cup	30mg	Bison, ground*	4 oz.	15mg
Flounder*	4 oz.	30mg	Venison, ground*	4 oz.	15mg
Cream cheese	2 Tbsp.	29mg	Sea Bass*	4 oz.	14mg
Coconut water	8 fl. oz.	28mg	Apples	1 large	13mg
Beefalo*	4 oz.	27mg	Potatoes*	1 cup	12mg
Turbot*	4 oz.	26mg	Elk, ground*	4 oz.	11mg
Eggs	1 large	25mg	Cashews	1 oz.	10mg
Grouper*	4 oz.	23mg	Scallops*	4 oz.	9mg
Mackerel*	4 oz.	22mg	Duck Breast*	4 oz.	9mg
Grapefruit juice	8 fl. oz.	22mg	Ostrich, ground*	4 oz.	9mg
Mahi Mahi*	4 oz.	21mg	Miso paste	1 Tbsp.	9mg
Hemp seeds	3 Tbsp.	21mg	Plums	1 cup	9mg
Dark chocolate	1 oz.	20mg	Blueberries	1 cup	8mg
Rabbit*	4 oz.	20mg	Butter	2 Tbsp.	6mg
Pecans	1 oz.	19mg	Red bell pepper	1 cup	6mg
Macadamia nuts	1 oz.	19mg	Bee pollen	1 tsp.	4mg
Boursin cheese	1 oz.	19mg	Bacon*	1 oz.	2mg
Sesame seeds	1 oz.	17mg			
Raisins	1 oz.	17mg			

\*cooked

### Magnesium

Magnesium is a mineral that is used to maintain strong bones, nerves, heart, gut and muscles. This mineral is involved in 300 processes in the body. It works synergistically with calcium. Calcium contracts our muscles while magnesium relaxes the muscles. Magnesium may relieve insomnia, high blood pressure, cramps and anxiety. It may be useful for preventing heart attacks and asthma due to its ability to open up the blood vessels for increased blood flow.

Magnesium helps to convert blood sugar into energy, keeps our cholesterol levels in check, eases depression, relieves indigestion, prevents calcium deposits, kidney stones and gallstones.

Magnesium works very well with Vitamin A, calcium and phosphorus.

Magnesium deficiency symptoms: high stress levels, fatigue, poor appetite, nausea, vomiting, muscle cramps, abnormal heart rate, excessive alcohol consumption, excessive medication use, being an alcoholic, taking diuretics and laxatives, fatigue, impaired concentration, muscle cramps, tingling sensation in the hands, restlessness, irregular heartbeat, headaches.

Basically, everyone is likely deficient in Magnesium. When in doubt, eat dark chocolate!

The best sources of Magnesium:

Hemp seeds	3 Tbsp.	210mg	Cacao powder	3 Tbsp.	80mg
Spinach*	1 cup	166mg	Brown rice*	1 cup	78mg
Pumpkin seeds	1 oz.	155mg	Almonds	1 oz.	76mg
Oats	1 cup	111mg	Turbot*	4 oz.	73mg
Black beans*	1 cup	120mg	Tuna*	4 oz.	72mg
Quinoa*	1 cup	118mg	Pine nuts	1 oz.	71mg
White beans*	1 cup	112mg	Lentils*	1 cup	71mg
Flax seeds	1 oz.	111mg	Cashews	1 oz.	70mg
Brazil nuts	1 oz.	106mg	Avocado	1 cup	66mg
Coconut milk	8 fl. oz.	104mg	Dark chocolate	1 oz.	64mg
Swiss chard*	1 cup	101mg	Butternut squash*	1 cup	59mg
Sesame seeds	1 oz.	101mg	Bulgur*	1 cup	58mg
Chocolate Carnation			Sea Bass*	4 oz.	58mg
Instant Breakfast	1 packet	100mg	Green peas*	1 cup	54mg
Pollock*	4 oz.	97mg	Peanut butter	2 Tbsp.	54mg
Chia seeds	1 oz.	94mg	Sweet potato*	1 cup	54mg
Kidney beans*	1 cup	90mg	Wild rice*	1 cup	50mg
Pinto beans*	1 cup	88mg	Scallops*	4 oz.	49mg
Pili nuts	1 oz.	85mg	Oysters*	4 oz.	49mg
Black eyed peas*	1 cup	85mg	Whitefish*	4 oz.	47mg
Pinto beans*	1 cup	85mg	Mackerel*	4 oz.	46mg
Mackerel*	4 oz.	82mg	Kale*	1 cup	45mg
Chickpeas*	1 cup	81mg	Walnuts	1 oz.	44mg

Herring*	4 oz.	44mg
Sardines	4 oz.	44mg
Pike*	4 oz.	44mg
Mahi Mahi*	4 oz.	43mg
Perch*	4 oz.	43mg
Walleye*	4 oz.	43mg
Smelt*	4 oz.	43mg
Yellowtail*	4 oz.	43mg
Grouper*	4 oz.	41mg
Pollock*	4 oz.	41mg
Tangy Tangerine	2.5 1 scoop	40mg
Swordfish*	4 oz.	39mg
Tilapia*	4 oz.	38mg
Wild salmon*	4 oz.	37mg
Halibut*	4 oz.	37mg
Water Buffalo*	4 oz.	37mg
Rabbit*	4 oz.	35mg
Pecans	1 oz.	34mg
Banana	1 medium	34mg
Bacon*	4 oz.	34mg
Broccoli*	1 cup	33mg
Macadamia nuts	1 oz.	33mg
Sardines	3 oz.	33mg
Emu, ground*	4 oz.	32mg
Potatoes*	1 cup	31mg
Antelope*	4 oz.	31mg
Wild Boar*	4 oz.	30mg
Monkfish*	4 oz.	30mg

Haddock*	4 oz.	30mg
Caribou*	4 oz.	30mg
Greek yogurt	1 cup	30mg
Dover sole*	4 oz.	30mg
Poppy seeds	1 Tbsp.	30mg
Scallops*	4 oz.	29mg
Bison ribeye*	4 oz.	29mg
Kiwi	1 cup	28mg
Blackberries	1 cup	28mg
Beef ribeye*	4 oz.	28mg
Elk, ground*	4 oz.	27mg
Catfish*	4 oz.	27mg
Raspberries	1 cup	27mg
Venison, ground*	4 oz.	27mg
Moose*	4 oz.	27mg
Bear*	4 oz.	26mg
Ostrich, ground*	4 oz.	26mg
Greek yogurt	1 cup	26mg
Flounder*	4 oz.	26mg
Pumpkin	½ cup	26mg
Medjool dates	2 dates	25mg
Whole milk, raw	8 fl. oz.	24mg
Quail*	4 oz.	24mg
Watercress	4 oz.	23mg
Marinara	½ cup	23mg
Cottage cheese	1 cup	20mg
Cornish Game Hen*	4 oz.	20mg
Figs, dried	1 oz.	19mg



Oranges	1 cup	18mg	Blueberries	1 cup	8mg
Mango	1 cup	16mg	Gouda cheese	1 oz.	8mg
Carrots	1 cup	15mg	Miso paste	1 Tbsp.	8mg
Coconut water	8 fl. oz.	14mg	Provolone cheese	1 oz.	7mg
Apples	1 cup	11mg	Cheddar cheese	1 oz.	7mg
Red bell peppers	1 cup	11mg	Mozzarella	1 oz.	5mg
Plums	1 cup	10mg	Eggs*	1 large	5mg
Grapes	1 cup	10mg	*cooked		
Raisins	1 oz.	10mg			
Bee pollen	1 tsp.	10mg			

### Phosphorus

Phosphorus (Phosphate) is a mineral that builds strong bones, activates enzymes, vitamins, hormones and maintains the body's ph. The majority of the body's phosphorus is found in the bones and teeth. Phosphorus is a key mineral to metabolize fat and carbohydrates.

Vitamin D and Calcium must be present for Phosphorus to function correctly. Niacin needs Phosphorus to absorb to maintain normal kidney health.

Phosphorus deficiency symptoms: rickets, pyorrhea, bone pain, anxiety, fatigue, irritability, joint pain.

The best sources of Phosphorus:

Kielbasa*	4 oz.	736mg			
Hemp seeds	3 Tbsp.	495mg	Wild salmon*	4 oz.	365mg
Pork chops*	4 oz.	468mg	Flounder*	4 oz.	359mg
Scallops*	4 oz.	451mg	Lentils*	1 cup	356mg
Dover sole*	4 oz.	428mg	Ham*	4 oz.	355mg
Sardines	4 oz.	416mg	Swordfish*	4 oz.	344mg
Whitefish*	4 oz.	392mg	Venison filet*	4 oz.	338mg
Clams*	4 oz.	383mg	Cottage cheese	1 cup	334mg
Greek yogurt	1 cup	375mg	Smelt*	4 oz.	334mg
Bluefin tuna*	4 oz.	369mg	Pork tenderloin*	4 oz.	328mg

Herring*	4 oz.	327mg	Venison, ground*	4 oz.	258mg
Wheat germ	1 oz.	325mg	Ostrich, ground*	4 oz.	254mg
Haddock*	4 oz.	324mg	Sunflower lecithin	4 tsp.	250mg
Oats	1 cup	322mg	Elk, ground*	4 oz.	250mg
Pollock*	4 oz.	320mg	Water Buffalo*	4 oz.	249mg
Kidney beans*	1 cup	318mg	Chia seeds	1 oz.	243mg
Mackerel*	4 oz.	315mg	Tilapia*	4 oz.	242mg
Quail*	4 oz.	315mg	Chickpeas*	1 cup	239mg
Blue crab, canned	1 cup	315mg	Antelope*	4 oz.	238mg
Pike*	4 oz.	314mg	Chocolate Carnation		
Cod*	4 oz.	310mg	Instant Breakfast	1 packet	230mg
Walleye*	4 oz.	305mg	Yellowtail*	4 oz.	227mg
Wild goose*	4 oz.	305mg	Goat*	4 oz.	225mg
Emu, ground*	4 oz.	305mg	Brown rice*	1 cup	208mg
Catfish*	4 oz.	291mg	Mahi Mahi*	4 oz.	207mg
Monkfish*	4 oz.	290mg	Whole milk, raw	8 fl. oz.	204mg
Perch*	4 oz.	285mg	Moose*	4 oz.	199mg
Duck breast*	4 oz.	284mg	Beef ribeye*	4 oz.	197mg
Beefalo*	4 oz.	283mg	Bear*	4 oz.	192mg
Quinoa*	1 cup	281mg	Sesame seeds	1 oz.	189mg
Pinto beans*	1 cup	278mg	Turbot*	4 oz.	187mg
Sea Bass*	4 oz.	276mg	Cashews	1 oz.	168mg
Chicken breast*	4 oz.	273mg	Cornish Game Hen*	4 oz.	164mg
Pheasant*	4 oz.	273mg	Grouper*	4 oz.	162mg
Rabbit*	4 oz.	271mg	Gouda cheese	1 oz.	154mg
Bison ribeye*	4 oz.	269mg	Wild Boar*	4 oz.	151mg
Caribou*	4 oz.	263mg	Bacon*	1 oz.	143mg
Turkey breast*	4 oz.	260mg	Provolone cheese	1 oz.	140mg

Pinto beans*	½ cup	139mg	Marinara	½ cup	44mg
Almonds	1 oz.	136mg	Pumpkin	½ cup	41mg
Edamame*	½ cup	131mg	Bee pollen	1 tsp.	40mg
Cheddar cheese	1 oz.	129mg	Raspberries	1 cup	35mg
Cacao powder	3 Tbsp.	118mg	Cream cheese	2 Tbsp.	32mg
Peanut butter	2 Tbsp.	108mg	Blackberries	1 cup	31mg
Sweet potato*	1 cup	108mg	Peaches	1 cup	30mg
Broccoli*	1 cup	106mg	Grapes	1 cup	30mg
Mozzarella	1 oz.	100mg	Raisins	1 oz.	27mg
Dark chocolate	1 oz.	87mg	Banana	1 medium	27mg
Eggs*	1 large	86mg	Miso paste	1 Tbsp.	27mg
Pecans	1 oz.	78mg	Oranges	1 cup	25mg
Poppy seeds	1 Tbsp.	76mg	Plums	1 cup	24mg
Watercress	4 oz.	68mg	Apple	1 cup	24mg
Parmesan cheese	2 Tbsp.	63mg	Red bell peppers	1 cup	23mg
Potatoes*	1 cup	62mg	Mango	1 cup	23mg
Kiwi	1 cup	61mg	Blueberries	1 cup	17mg
Macadamia nuts	1 oz.	55mg	*cooked		
Butternut squash*	1 cup	55mg			
Carrots	1 cup	44mg			

### Potassium

Potassium is a mineral that aids in carbohydrate metabolism, nerve function and heart and muscle contractions. Potassium ensures that oxygen travels to vital organs, increases water flow in the body and it is useful for blood, muscle, brain and kidney health. This major mineral may reduce the risk of cardiovascular disease and stroke. Heavy coffee drinkers, alcoholics, sugar addicts and members of the KETO CULT need more potassium.

Potassium deficiency symptoms: adrenal fatigue, hypertension, muscle cramps, weak bones, kidney stones, hypoglycemia (low blood sugar), long fasts, diarrhea.

The best sources of Potassium:

Spinach*	1 cup	1,179mg
Kielbasa*	4 oz.	1,124mg
Avocado	1 cup	1,115mg
Swiss chard*	1 cup	960mg
Sweet potato*	1 cup	950mg
Yam*	1 cup	911mg
Acorn squash*	1 cup	895mg
Kidney beans*	1 cup	778mg
Pinto beans*	1 cup	745mg
Lentils*	1 cup	730mg
Passion fruit juice	8 fl. oz.	686mg
Tomato paste	¼ cup	669mg
Mussels*	4 oz.	649mg
Halibut*	4 oz.	622mg
Black beans*	1 cup	610mg
Yellowtail*	4 oz.	610mg
Mahi Mahi*	4 oz.	604mg
Coconut water	8 fl. oz.	600mg
Butternut squash*	1 cup	582mg
Monkfish*	4 oz.	581mg
Swordfish*	4 oz.	565mg
Walleye*	4 oz.	565mg
Trout*	4 oz.	539mg
Grouper*	4 oz.	538mg
Pomegranate juice	8 fl. oz.	530mg
Beefalo*	4 oz.	520mg
Pollock*	4 oz.	517mg

Potatoes*	1 cup	511mg
Broccoli*	1 cup	508mg
Pork tenderloin*	4 oz.	503mg
Wild salmon*	4 oz.	492mg
Kale*	1 cup	484mg
Cauliflower*	1 cup	482mg
Mackerel*	4 oz.	479mg
Whitefish*	4 oz.	460mg
Goat*	4 oz.	455mg
Herring*	4 oz.	454mg
Banana	1 medium	451mg
Sardines	4 oz.	450mg
Wild Boar*	4 oz.	449mg
Tilapia*	4 oz.	433mg
Catfish*	4 oz.	433mg
Chickpeas*	1 cup	432mg
Emu, ground*	4 oz.	425mg
Marinara	½ cup	422mg
Antelope*	4 oz.	421mg
Smelt*	4 oz.	421mg
Bison ribeye*	4 oz.	420mg
Venison, ground*	4 oz.	412mg
Haddock*	4 oz.	410mg
Carrots	1 cup	409mg
Corn	1 cup	405mg
Green peas*	1 cup	404mg
Apricots	1 cup	401mg

Elk, ground*	4 oz.	401mg
Beef liver*	4 oz.	395mg
Greek yogurt	1 cup	391mg
Coconut water	8 fl. oz.	388mg
Rabbit*	4 oz.	387mg
Perch*	4 oz.	385mg
Moose*	4 oz.	378mg
Watercress	4 oz.	374mg
Wild goose*	4 oz.	371mg
Pike*	4 oz.	371mg
Sea Bass*	4 oz.	367mg
Ostrich, ground*	4 oz.	366mg
Hemp seeds	3 Tbsp.	360mg
Kiwi	1 cup	356mg
Water Buffalo*	4 oz.	354mg
Honeydew	1 cup	353mg
Caribou*	4 oz.	350mg
Turbot*	4 oz.	345mg
Oysters*	4 oz.	342mg
Sardines	3 oz.	337mg
Cod*	4 oz.	336mg
Oranges	1 cup	325mg
Whole milk, raw	8 fl. oz.	322mg
Beef ribeye*	4 oz.	319mg
Quinoa*	1 cup	318mg
Pheasant*	4 oz.	306mg
Papaya	1 cup	300mg
Bear*	4 oz.	298mg

King crab*	4 oz.	297mg
Shrimp*	4 oz.	293mg
Oats	1 cup	293mg
Molasses	1 Tbsp.	292mg
Chicken thighs*	4 oz.	289mg
Grapes	1 cup	286mg
Chocolate Carnation		
Instant Breakfast	1 packet	280mg
Scallops*	4 oz.	278mg
Mango	1 cup	277mg
Cornish Game Hen*	4 oz.	275mg
Dover sole*	4 oz.	272mg
Cottage cheese	1 cup	271mg
Wheat germ	1 oz.	268mg
Grape juice	8 fl. oz.	263mg
Cacao powder	3 Tbsp.	246mg
Pumpkin	½ cup	245mg
Cantaloupe	1 cup	243mg
Quail*	4 oz.	243mg
Plums	1 cup	243mg
Grapefruit	1 cup	243mg
Apples	1 cup	238mg
Blackberries	1 cup	233mg
Strawberries	1 cup	232mg
Flax seeds	1 oz.	230mg
Flounder*	4 oz.	230mg
Yellow bell pepper	1 cup	212mg
Raisins	1 oz.	210mg

Almonds	1 oz.	207mg
Prunes	1 oz.	207mg
Nectarines	1 cup	203mg
Dark chocolate	1 oz.	202mg
Medjool dates	1 oz.	197mg
Red bell peppers	1 cup	194mg
Hazelnuts	1 oz.	192mg
Peaches	1 cup	189mg
Cashews	1 oz.	187mg
Brazil nuts	1 oz.	182mg
Raspberries	1 cup	185mg
Sunflower seeds	1 oz.	182mg
Lobster*	1 cup	181mg
Peanut butter	2 Tbsp.	180mg
Pineapple	1 cup	179mg
Brown rice*	1 cup	173mg
Watermelon	1 cup	172mg
Tangy Tangerine	2.5 1 scoop	170mg
Pine nuts	1 oz.	169mg
Brown rice*	1 cup	167mg
Parsley	1 oz.	157mg
Bacon*	1 oz.	152mg

Cabbage	1 cup	151mg
Pears	1 cup	145mg
Sesame seeds	1 oz.	132mg
Walnuts	1 oz.	125mg
Pecans	1 oz.	116mg
Chia seeds	1 oz.	115mg
Blueberries	1 cup	113mg
Macadamia nuts	1 oz.	103mg
Sunflower lecithin	4 tsp.	80mg
Romaine lettuce	1 cup	67mg
Maple syrup	1 oz.	63mg
Clams*	4 oz.	63mg
Poppy seeds	1 oz.	63mg
Eggs*	1 large	63mg
Provolone cheese	1 oz.	39mg
Cream cheese	1 oz.	37mg
Gouda cheese	1 oz.	34mg
Mozzarella	1 oz.	26mg
Cheddar cheese	1 oz.	21mg
Cranberries, dried	¼ cup	19mg
Bee pollen	1 tsp.	11mg
*cooked		

## Sodium

Sodium is a mineral, with potassium and chloride, which maintains the body's electrical charge through nerve cells and promotes healthy nerve, muscle and heart function. Sodium enhances the absorption of amino acids and glucose into the cells.

Sodium helps the body retain water, along with balancing our positive and negative ions in our tissue and to regulate a healthy blood pressure. In addition, sodium keeps calcium soluble in the blood.

Sodium deficiency symptoms: vomiting, headache, confusion, fatigue, muscle spasms.

The best sources of Sodium:

Kielbasa*	4 oz.	3,870mg	Goat*	4 oz.	463mg
Salami	4 oz.	2,116mg	Halibut*	4 oz.	462mg
Pepperoni	4 oz.	1,792mg	Perch*	4 oz.	454mg
Clams*	4 oz.	1,363mg	Beef liver*	4 oz.	454mg
King crab*	4 oz.	1,215mg	Tilapia*	4 oz.	440mg
Ham*	4 oz.	1,050mg	Trout*	4 oz.	438mg
Tamari	1 Tbsp.	1,005mg	Pike*	4 oz.	421mg
Cottage cheese	1 cup	725mg	Mussels*	4 oz.	418mg
Bratwurst*	4 oz.	719mg	Pesto	¼ cup	378mg
Pinto beans*	1 cup	658mg	Kimchi	½ cup	373mg
Miso paste	1 Tbsp.	633mg	Kalamata olives	1 oz.	359mg
Bacon*	1 oz.	621mg	Beets*	1 cup	343mg
Chickpeas*	1 cup	588mg	Artichokes*	1 cup	299mg
Sea salt	¼ tsp.	581mg	Wild goose*	4 oz.	263mg
Marinara	½ cup	576mg	Sardines	3 oz.	261mg
Scallops*	4 oz.	564mg	Caribou*	4 oz.	252mg
Kidney beans*	1 cup	558mg	Quail*	4 oz.	243mg
Lobster*	4 oz.	551mg	Broccoli*	1 cup	240mg
Cod*	4 oz.	521mg	Oysters*	4 oz.	240mg
Catfish*	4 oz.	506mg	Rabbit*	4 oz.	235mg
Dover sole*	4 oz.	504mg	Gouda cheese	1 oz.	232mg
Flounder*	4 oz.	481mg	Pheasant*	4 oz.	232mg
Herring*	4 oz.	480mg	Dill pickles	1 oz.	229mg
Mackerel*	4 oz.	477mg	Turbot*	4 oz.	218mg
Sea Bass*	4 oz.	463mg	Provolone cheese	1 oz.	206mg
Haddock*	4 oz.	463mg	Cheddar cheese	1 oz.	185mg

Butter	2 Tbsp.	182mg	Smelt*	4 oz.	87mg
Boursin cheese	1 oz.	176mg	Celery	1 cup	80mg
Parmesan	2 Tbsp.	175mg	Bear*	4 oz.	80mg
Mozzarella	1 oz.	137mg	Walleye*	4 oz.	74mg
Peanut butter	2 Tbsp.	137mg	Whitefish*	4 oz.	74mg
Mahi Mahi*	4 oz.	128mg	Emu, ground*	4 oz.	74mg
Shrimp*	4 oz.	125mg	Sweet potato*	1 cup	72mg
Pollock*	4 oz.	125mg	Beef ribeye*	4 oz.	68mg
Swordfish*	4 oz.	110mg	Wild Boar*	4 oz.	68mg
Whole milk, raw	8 fl. oz.	104mg	Salmon*	4 oz.	65mg
Yak, ground*	4 oz.	100mg	Water Buffalo*	4 oz.	63mg
Macadamia nuts	1 oz.	100mg	Eggs*	1 large	62mg
Greek yogurt	1 cup	97mg	Antelope*	4 oz.	61mg
Elk, ground*	4 oz.	96mg	Grouper*	4 oz.	60mg
Duck Breast*	4 oz.	95mg	Bison ribeye*	4 oz.	58mg
Cream cheese	2 Tbsp.	94mg	Yellowtail*	4 oz.	57mg
Beefalo*	4 oz.	92mg	Coconut water	8 fl. oz.	50mg
Carrots	1 cup	88mg	Watercress	4 oz.	46mg
Venison, ground*	4 oz.	88mg			

### Micro Minerals (Trace Elements)

#### Copper

Copper is a mineral that helps the body release energy from our food. This mineral is crucial for maintaining strong skin, bones, heart and blood vessels. Copper aids in the synthesis of neurotransmitters and giving color to our eyes, hair and skin (melanin). In addition, copper aids in cognitive function, eases arthritis, wipes out throat infections and may prevent heart disease.

Copper deficiency symptoms: fatigue, slow metabolism, thyroid hormone imbalances, anemia, bruise easily, joint pain, poor hair, skin and/or nails.



The best sources of Copper:

Beef liver*	4 oz.	16.06mg		Pistachios	1 oz.	0.36mg
Oysters*	4 oz.	3.06mg		Quinoa*	1 cup	0.36mg
Lobster*	4 oz.	1.76mg		Pumpkin seeds	1 oz.	0.36mg
Tangy Tangerine	2.5	1 scoop	1.50mg	Flax seeds	1 oz.	0.35mg
King crab*	4 oz.	1.34mg		Pecans	1 oz.	0.34mg
Shiitakes*	1 cup	1.30mg		Goat*	4 oz.	0.34mg
Sesame seeds	1 oz.	1.16mg		Sweet potato*	1 cup	0.32mg
Clams*	4 oz.	0.80mg		Oats	1 cup	0.32mg
Avocado	1 cup	0.70mg		Pili nuts	1 oz.	0.30mg
Quail*	4 oz.	0.67mg		Caribou*	4 oz.	0.30mg
Cashews	1 oz.	0.61mg		Potatoes*	1 cup	0.30mg
Cacao powder	3 Tbsp.	0.61mg		Spinach*	1 cup	0.30mg
Turbot*	4 oz.	0.52mg		Wild goose*	4 oz.	0.30mg
Sunflower seeds	1 oz.	0.51mg		Almonds	1 oz.	0.30mg
Coconut milk	8 fl. oz.	0.50mg		Green peas*	1 cup	0.29mg
Dark chocolate	1 oz.	0.50mg		Emu, ground*	4 oz.	0.27mg
Lentils*	1 cup	0.50mg		Walleye*	4 oz.	0.26mg
Hazelnuts	1 oz.	0.50mg		Skirt steak*	4 oz.	0.26mg
Brazil nuts	1 oz.	0.50mg		Chia seeds	1 oz.	0.26mg
Hemp seeds	3 Tbsp.	0.48mg		Blackberries	1 cup	0.24mg
Chickpeas*	1 cup	0.46mg		Kiwi	1 cup	0.24mg
Walnuts	1 oz.	0.45mg		Antelope*	4 oz.	0.24mg
Kidney beans*	1 cup	0.44mg		Bison ribeye*	4 oz.	0.22mg
Shrimp*	4 oz.	0.43mg		Sardines	4 oz.	0.21mg
Pinto beans*	1 cup	0.40mg		Brown rice*	1 cup	0.21mg
Black beans*	1 cup	0.40mg		Perch*	4 oz.	0.21mg
Pine nuts	1 oz.	0.38mg		Smelt*	4 oz.	0.20mg

Rabbit*	4 oz.	0.20mg
Water Buffalo*	4 oz.	0.20mg
Chocolate Carnation		
Instant Breakfast	1 packet	0.20mg
Grapes	1 cup	0.19mg
Mango	1 cup	0.18mg
Pineapple	1 cup	0.18mg
Mussels*	4 oz.	0.17mg
Bear*	4 oz.	0.17mg
Elk, ground*	4 oz.	0.16mg
Macadamia nuts	1 oz.	0.16mg
Sardines	3 oz.	0.16mg
Poppy seeds	1 Tbsp.	0.15mg
Ostrich, ground*	4 oz.	0.15mg
Herring*	4 oz.	0.13mg
Butternut squash*	1 cup	0.13mg
Nectarine	1 cup	0.13mg
Peanut butter	2 Tbsp.	0.13mg
Pumpkin	½ cup	0.13mg
Beets*	1 cup	0.13mg
Cantaloupe	1 cup	0.13mg
Peaches	1 cup	0.12mg
Raspberries	1 cup	0.11mg
Tilapia*	4 oz.	0.11mg
Venison, ground*	4 oz.	0.11mg
Mackerel*	4 oz.	0.11mg
Marinara	½ cup	0.11mg
Pear	1 cup	0.10mg

Pheasant*	4 oz.	0.10mg
Molasses	1 Tbsp.	0.10mg
Bee pollen	1 tsp.	0.10mg
Banana	1 medium	0.10mg
Medjool dates	1 oz.	0.10mg
Whitefish*	4 oz.	0.10mg
Beef ribeye*	4 oz.	0.09mg
Moose*	4 oz.	0.09mg
Plum	1 cup	0.09mg
Raisins	1 oz.	0.08mg
Oranges	1 cup	0.08mg
Blueberries	1 cup	0.08mg
Broccoli*	1 cup	0.08mg
Wild salmon*	4 oz.	0.08mg
Watercress	4 oz.	0.08mg
Prunes	1 oz.	0.08mg
Yellowtail*	4 oz.	0.07mg
Pike*	4 oz.	0.07mg
Cottage cheese	1 cup	0.07mg
Cornish Game Hen*	4 oz.	0.07mg
Pollock*	4 oz.	0.07mg
Kale*	1 cup	0.07mg
Trout*	4 oz.	0.07mg
Miso paste	1 Tbsp.	0.07mg
Strawberries	1 cup	0.07mg
Mahi Mahi*	4 oz.	0.06mg
Watermelon	1 cup	0.06mg
Whole milk, raw	8 fl. oz.	0.06mg

Apples	1 large	0.06mg	Parsley	1 oz.	0.04mg
Cauliflower*	1 cup	0.06mg	Haddock*	4 oz.	0.03mg
Carrots	1 cup	0.06mg	Cod*	4 oz.	0.03mg
Wild Boar*	4 oz.	0.06mg	Cranberries, dried	¼ cup	0.03mg
Bacon*	1 oz.	0.05mg	Red bell peppers	1 cup	0.02mg
Greek yogurt	1 cup	0.05mg	Cabbage	1 cup	0.02mg
Grouper*	4 oz.	0.05mg	Romaine lettuce	1 cup	0.01mg
Swordfish*	4 oz.	0.05mg	Eggs*	1 large	0.01mg
Halibut*	4 oz.	0.04mg	*cooked		

### Iodine

Iodine is a mineral that is part of our thyroid gland, key for organ development, growth, metabolism and reproduction. Iodine is needed to make the thyroid hormones, thyroxine and triiodothyronine, which assist with the creation of proteins, as well as regulating normal metabolism.

Iodine deficiency symptoms: fatigue, cold sensitivity, constipation, dry skin, weight gain.

The best sources of Iodine:

Smelt*	4 oz.	246mcg	Potato with peel*	1 med.	52mcg
Cod*	4 oz.	212mcg	Tortilla	1 tortilla	52mcg
Lobster*	4 oz.	211mcg	Beef liver*	4 oz.	51mcg
Haddock*	4 oz.	138mcg	Pollock*	4 oz.	49mcg
Oysters*	4 oz.	124mcg	Turkey breast*	4 oz.	48mcg
Kelp, dried	2 T.	116-2,984mcg	Shrimp*	4 oz.	46mcg
Iodized salt	¼ tsp.	76mcg	Soda crackers	10 crackers	44mcg
Clams*	4 oz.	76mcg	Blue crab, canned	4 oz.	43mcg
Greek yogurt	1 cup	74mcg	Rockfish*	4 oz.	38mcg
Navy beans*	1 cup	64mcg	Cottage cheese	1 cup	35mcg
Black eye peas*	1 cup	61mcg	Vanilla ice cream	2/3 cup	35mcg
Whole milk, raw	8 fl. oz.	56mcg	Swiss cheese	1 oz.	34mcg

Wild salmon*	4 oz.	32mcg
Pasta*	1 cup	32mcg
Corn	1 cup	28mcg
Chocolate ice cream	2/3 cup	28mcg
Eggs*	1 large	27mcg
Bluefin tuna*	4 oz.	26mcg
Orange juice	8 fl. oz.	23mcg
Parmesan	2 Tbsp.	22mcg
Chocolate Carnation		
Instant Breakfast	1 packet	20mcg
Milk	8 fl. oz.	19-62mcg
Ricotta cheese	1 oz.	18mcg
Egg noodles*	1 cup	18mcg
Beef*	4 oz.	18mcg
Chicken*	4 oz.	17mcg
Bread	1 slice	17mcg
Lima beans*	1 cup	16mcg
Rockfish*	4 oz.	16mcg
Mozzarella	1 oz.	15mcg
Potato, peeled*	1 medium	15mcg
Strawberries	1 cup	13mcg
Monterey Jack cheese	1 oz.	13mcg
Prunes	1 oz.	13mcg
Cheddar cheese	1 oz.	12mcg
Lamb chop*	4 oz.	12mcg
Pork*	4 oz.	12mcg
Cream cheese	1 oz.	11mcg

Apple juice	8 fl. oz.	11mcg
Halibut*	4 oz.	9mcg
Sour cream	1 oz.	8.62mcg
Heavy cream	1 fl. oz.	8mcg
Perch*	4 oz.	8mcg
White rice*	1 cup	8mcg
Oats*	½ cup	8mcg
Green peas*	1 cup	6mcg
Raisin bran	1 oz.	6mcg
Cornbread	1 oz.	6mcg
Apricots, canned	1 cup	6mcg
Peaches, canned	1 cup	6mcg
Fish sauce	1 fl. oz.	5.91mcg
Salami	1 oz.	3.8mcg
Ranch dressing	1 oz.	3.31mcg
Raisin granola	1 oz.	3.08mcg
Banana	1 medium	3mcg
Pecans, unsalted	¼ cup	2mcg
Peanuts, salted	¼ cup	2mcg
Peanut butter	2 Tbsp.	2mcg
Spinach, raw	1 oz.	1.71mcg
Mayonnaise	1 oz.	1.68mcg
Butter, salted	2 Tbsp.	1.32mcg
Spinach*	1 oz.	1.11mcg
Red bell pepper	1 cup	0.92mg

\*cooked

## Iron

Iron is a mineral (with hemoglobin) that moves oxygen through the blood and muscles. It is also crucial for a strong immune system and to maintain a healthy metabolism. It would behoove you to add Vitamin C rich foods to help the body absorb the iron.

Iron deficiency symptoms: fatigue, poor concentration, headaches, pica, dry hair, skin and nails.

The best sources of Iron:

Bear*	4 oz.	12.17mg	Venison, ground*	4 oz.	3.80mg
Oysters*	4 oz.	10.43mg	Elk, ground*	4 oz.	3.79mg
Mussels*	4 oz.	8.03mg	Duck Breast*	4 oz.	3.70mg
Coconut milk	8 fl. oz.	7.50mg	Chickpeas*	1 cup	3.69mg
Oats	1 cup	7.40mg	Pinto beans*	1 cup	3.68mg
Beef liver*	4 oz.	7.36mg	Bison, ground*	4 oz.	3.62mg
Caribou*	4 oz.	6.96mg	Chocolate Carnation		
Lentils*	1 cup	6.59mg	Instant Breakfast	1 packet	3.50mg
Spinach*	1 cup	6.40mg	Beefalo*	4 oz.	3.46mg
Skirt steak*	4 oz.	6.20mg	Dark chocolate	1 oz.	3.37mg
Emu, ground*	4 oz.	5.68mg	Sardines	4 oz.	3.31mg
Rabbit*	4 oz.	5.48mg	Clams*	4 oz.	3.29mg
Black beans*	1 cup	5.30mg	Beef, ground*	4 oz.	2.83mg
Kidney beans*	1 cup	5.30mg	Quinoa*	1 cup	2.76mg
Quail*	4 oz.	5mg	Wheat germ	1 oz.	2.58mg
Moose*	4 oz.	4.79mg	Sardines	4 oz.	2.48mg
Antelope*	4 oz.	4.76mg	Green peas*	1 cup	2.45mg
Black eyed peas*	1 cup	4.30mg	Water Buffalo*	4 oz.	2.40mg
Goat*	4 oz.	4.20mg	Hemp seeds	3 Tbsp.	2.38mg
Sesame seeds	1 oz.	4.20mg	Cacao powder	3 Tbsp.	2.25mg
Asparagus*	1 cup	4.12mg	Kale*	1 cup	2.24mg
Morel mushrooms*	½ cup	4mg	Chia seeds	1 oz.	2.19mg
Ostrich, ground*	4 oz.	3.89mg	Mackerel*	4 oz.	2.05mg

Acorn squash*	1 cup	1.91mg
Cashews	1 oz.	1.89mg
Walleye*	4 oz.	1.89mg
Parsley	1 oz.	1.76mg
Pumpkin	½ cup	1.65mg
Mahi Mahi*	4 oz.	1.64mg
Flax seeds	1 oz.	1.62mg
Pine nuts	1 oz.	1.57mg
Herring*	4 oz.	1.53mg
Beets*	1 cup	1.42mg
Sweet potato*	1 cup	1.38mg
Hazelnuts	1 oz.	1.33mg
Smelt*	4 oz.	1.30mg
Grouper*	4 oz.	1.29mg
Perch*	4 oz.	1.29mg
Avocado	1 cup	1.27mg
Wild Boar*	4 oz.	1.27mg
Butternut squash*	1 cup	1.23mg
Broccoli*	1 cup	1.18mg
Brown rice*	1 cup	1.13mg
Pistachios	1 oz.	1.11mg
Chicken thighs*	4 oz.	1.08mg
Sunflower seeds	1 oz.	1.08mg
Almonds	1 oz.	1.05mg
Cornish Game Hen*	4 oz.	1.02mg
Tangy Tangerine 2.5	1 scoop	1mg
Marinara	½ cup	0.96mg
Molasses	1 Tbsp.	0.94mg

Blackberries	1 cup	0.89mg
Poppy seeds	1 Tbsp.	0.86mg
King crab*	4 oz.	0.86mg
Raspberries	1 cup	0.85mg
Walnuts	1 oz.	0.82mg
Tilapia*	4 oz.	0.81mg
Pike*	4 oz.	0.78mg
Corn	1 cup	0.78mg
Pecans	1 oz.	0.72mg
Yellowtail*	4 oz.	0.71mg
Macadamia nuts	1 oz.	0.70mg
Wild salmon*	4 oz.	0.69mg
Brazil nuts	1 oz.	0.69mg
Cauliflower*	1 cup	0.68mg
Pollock*	4 oz.	0.67mg
Basil, dried	1 tsp.	0.63mg
Strawberries	1 cup	0.62mg
Apricots	1 cup	0.60mg
Eggs*	1 large	0.59mg
Cantaloupe	1 cup	0.59mg
Shrimp*	4 oz.	0.58mg
Cod*	4 oz.	0.56mg
Peanut butter	2 Tbsp.	0.55mg
Grapes	1 cup	0.54mg
Peaches	1 cup	0.53mg
Whitefish*	4 oz.	0.53mg
Turbot*	4 oz.	0.52mg
Raisins	1 oz.	0.51mg

Swordfish*	4 oz.	0.51mg	Mango	1 cup	0.26mg
Potatoes*	1 cup	0.48mg	Honeydew	1 cup	0.26mg
Pineapple	1 cup	0.48mg	Plum	1 cup	0.26mg
Monkfish*	4 oz.	0.46mg	Pomegranate juice	8 fl. oz.	0.24mg
Trout*	4 oz.	0.44mg	Watercress	4 oz.	0.23mg
Kiwi	1 cup	0.43mg	Halibut*	4 oz.	0.23mg
Sea Bass*	4 oz.	0.42mg	Pears	1 cup	0.23mg
Bacon*	1 oz.	0.42mg	Oranges	1 cup	0.18mg
Blueberries	1 cup	0.41mg	Cranberries, dried	¼ cup	0.16mg
Papaya	1 cup	0.41mg	Provolone cheese	1 oz.	0.15mg
Red bell peppers	1 cup	0.40mg	Cottage cheese	1 cup	0.15mg
Carrots	1 cup	0.38mg	Grapefruit	1 cup	0.14mg
Watermelon	1 cup	0.37mg	Mozzarella	1 oz.	0.12mg
Sunflower lecithin	4 tsp.	0.36mg	Whole milk, raw	8 fl. oz.	0.08mg
Banana	1 medium	0.33mg	Gouda cheese	1 oz.	0.07mg
Lobster*	4 oz.	0.33mg	Cheddar cheese	1 oz.	0.05mg
Bee pollen	1 tsp.	0.32mg	Cream cheese	1 oz.	0.03mg
Cottage cheese	1 cup	0.29mg	Maple syrup	1 oz.	0.03mg
Apples	1 large	0.27mg	Butter	2 Tbsp.	0.01mg
Medjool dates	1 oz.	0.26mg	*cooked		

## Manganese

Manganese is a mineral that aids in gluconeogenesis, collagen (bones, skin, wound healing) and proteoglycans (cartilage, bones). Manganese helps to regulate body metabolism, aids in digestion, may relieve fatigue and inflammation. It is also a crucial part of many enzymes that process amino acids, carbohydrates and cholesterol. Manganese works with thyroxine, the main thyroid gland hormone. Manganese boosts the brain's cognitive abilities.

Manganese-based enzymes are one of the main detoxifiers of free radicals.

Manganese deficiency symptoms: abnormal fat and carbohydrate metabolism, low fertility, fatigue, impaired glucose tolerance, poor bone growth.

The best sources of Manganese:

Mussels*	4 oz.	7.73mg	Sweet potatoes*	1 cup	1mg
Wheat germ	1 oz.	5.70mg	Lentils*	1 cup	1mg
Wild blueberries	1 cup	4mg	Blackberries	1 cup	0.93mg
Pineapple	1 cup	2.6mg	Macadamia nuts	1 oz.	0.90mg
Pine nuts	1 oz.	2.5mg	Kidney beans*	1 cup	0.84mg
Shredded coconut	1 cup	2.3mg	Raspberries	1 cup	0.82mg
Hemp seeds	3 Tbsp.	2.28mg	Pinto beans*	1 cup	0.80mg
Lima beans*	1 cup	2.1mg	Green peas*	1 cup	0.80mg
Brown rice*	1 cup	1.96mg	Chia seeds	1 oz.	0.77mg
Chickpeas	1 cup	1.80mg	Almonds	1 oz.	0.77mg
Coconut milk	8 fl. oz.	1.70mg	White rice*	1 cup	0.74mg
Chickpeas*	1 cup	1.70mg	Tomatoes, canned	1 cup	0.73mg
Spinach*	1 cup	1.60mg	Boysenberries	1 cup	0.72mg
Hazelnuts	1 oz.	1.60mg	Grapes	1 cup	0.70mg
Oats	1 cup	1.40mg	Flax seeds	1 oz.	0.70mg
Whole wheat bread	2 slices	1.39mg	Sunflower seeds	¼ cup	0.70mg
Black eyed peas*	1 cup	1.34mg	Almond butter	2 Tbsp.	0.68mg
Pumpkin seeds	1 oz.	1.30mg	Oysters*	4 oz.	0.66mg
Pepperoni	4 oz.	1.20mg	Cacao powder	3 Tbsp.	0.62mg
Clams*	4 oz.	1.20mg	Grape juice	8 fl. oz.	0.60mg
Quinoa*	1 cup	1.20mg	Chocolate Carnation		
Walleye*	4 oz.	1.16mg	Instant Breakfast	1 packet	0.60mg
Pecans	1 oz.	1.10mg	Poppy seeds	1 Tbsp.	0.59mg
Pinto beans*	1 cup	1.04mg	Dark chocolate	1 oz.	0.55mg
Smelt*	4 oz.	1.02mg	Blueberries	1 cup	0.50mg
Walnuts	1 oz.	1mg	Black tea, brewed	8 fl. oz.	0.50mg
Bee pollen	1 tsp.	1mg	Peanuts*	1 oz.	0.50mg



Acorn squash*	1 cup	0.49mg	Romaine lettuce	1 cup	0.10mg
Currants, dried	1 cup	0.49mg	Red bell peppers	1 cup	0.10mg
Cashews	1 oz.	0.46mg	Mango	1 cup	0.10mg
Sesame seeds	1 oz.	0.40mg	Whitefish*	4 oz.	0.09mg
Butternut squash*	1 cup	0.35mg	Beef ribeye*	4 oz.	0.09mg
Ground cloves	¼ tsp.	0.32mg	Cherries	1 cup	0.09mg
Watercress	4 oz.	0.27mg	Raisins	1 oz.	0.08mg
Spinach	1 cup	0.26mg	Apples	1 large	0.07mg
Pomegranate juice	8 fl. oz.	0.23mg	Dried thyme	1 tsp.	0.07mg
Asparagus*	1 cup	0.20mg	Pears	1 cup	0.06mg
Black pepper	¼ tsp.	0.20mg	Dried basil	1 tsp.	0.06mg
Kale	1 cup	0.19mg	Papaya	1 cup	0.05mg
Carrots	1 cup	0.18mg	Ground mustard	1 tsp.	0.04mg
Kiwi	1 cup	0.17mg	Curry powder	¼ tsp.	0.04mg
Marinara	½ cup	0.16mg	Wild salmon*	4 oz.	0.02mg
Ground ginger	¼ tsp.	0.14mg	Greek yogurt	1 cup	0.02mg
Ground turmeric	¼ tsp.	0.14mg	Bison ribeye*	4 oz.	0.01mg
Garlic, raw	1 Tbsp.	0.14mg	Ground nutmeg	¼ tsp.	0.01mg
Miso paste	1 Tbsp.	0.14mg			
Ground cinnamon	¼ tsp.	0.11mg			

\*cooked

### Selenium

Selenium is a trace mineral that activates inactive thyroid hormones T4 into T3. Vitamin E and Selenium work synergistically as antioxidants that fight free radical damage in the body. Selenium is used in the production of glutathione peroxidase, the body's main antioxidant. In addition, selenium protects against several types of cancers (bladder, prostate, thyroid), stroke and heart disease.

The ladies can benefit greatly since this mineral alleviates hot flashes and menopause distress.

For the men, selenium raises sperm levels and increases fertility.

Selenium deficiency symptoms: low fertility, weak muscles, fatigue, brittle nails, thyroid dysfunction, cognitive problems, hair loss, anxiety.

The best sources of Selenium:

Brazil nuts	1 oz.	544mcg	Emu, ground*	4 oz.	49mcg
Wild goose*	4 oz.	263mg	Bison ribeye*	4 oz.	47mcg
Oysters*	4 oz.	174mcg	Dover sole*	4 oz.	45mcg
Mussels*	4 oz.	101mcg	Couscous*	1 cup	43mcg
Tangy Tangerine 2.5	1 scoop	100mcg	Wild salmon*	4 oz.	43mcg
Pork chops*	4 oz.	86mcg	Pork spareribs*	4 oz.	42mcg
Lobster*	4 oz.	82mcg	Skirt steak*	4 oz.	40mcg
Swordfish*	4 oz.	77mcg	Egg noodles*	1 cup	38mcg
Clams*	4 oz.	72mcg	Flounder*	4 oz.	38mcg
Kielbasa*	4 oz.	69mcg	Beef ribeye*	4 oz.	37mcg
Halibut*	4 oz.	62mcg	Ostrich, ground*	4 oz.	37mcg
Ham*	4 oz.	61mcg	Haddock*	4 oz.	36mcg
Sardines	4 oz.	59mcg	Chicken breast*	4 oz.	36mcg
Tilapia*	4 oz.	59mcg	Bison, ground*	4 oz.	35mcg
Mackerel*	4 oz.	58mcg	Turkey breast*	4 oz.	34mcg
Pork tenderloin*	4 oz.	54mcg	Bratwurst*	4 oz.	33mcg
Mahi Mahi*	4 oz.	53mcg	Cottage cheese	1 cup	33mcg
Bluefin tuna*	4 oz.	53mcg	Duck breast*	4 oz.	31mcg
Grouper*	4 oz.	53mcg	Duck Breast*	4 oz.	29mcg
Monkfish*	4 oz.	53mcg	Quail*	4 oz.	24mcg
Turbot*	4 oz.	53mcg	Greek yogurt	1 cup	23mcg
Yellowtail*	4 oz.	53mcg	Oats	1 cup	23mcg
Pollock*	4 oz.	53mcg	Pheasant*	4 oz.	23mcg
Smelt*	4 oz.	53mcg	Beef, ground*	4 oz.	22mcg
Sea Bass*	4 oz.	52mcg	Walleye*	4 oz.	18mcg
Herring*	4 oz.	50mcg	Pike*	4 oz.	18mcg

Perch*	4 oz.	18mcg
Whitefish*	4 oz.	18mcg
Scallops*	4 oz.	17mcg
Rabbit*	4 oz.	17mcg
Cornish Game Hen*	4 oz.	17mcg
Bacon*	1 oz.	16mcg
Chia seeds	1 oz.	15mcg
Caribou*	4 oz.	15mcg
Eggs*	1 large	15mcg
Wild Boar*	4 oz.	14.74mcg
Antelope*	4 oz.	14mcg
Beefalo*	4 oz.	14mcg
Moose*	4 oz.	14mcg
Goat*	4 oz.	13mcg
Water Buffalo*	4 oz.	13mcg
Bear*	4 oz.	12mcg
Brown rice*	1 cup	11mcg
Venison, ground*	4 oz.	11mcg
Catfish*	4 oz.	11mcg
Elk, ground*	4 oz.	10mcg
Whole milk, raw	8 fl. oz.	9mcg
Cheddar cheese	1 oz.	8mcg
Chickpeas*	1 cup	5mcg
Cashews	1 oz.	5mcg
Mozzarella	1 oz.	4mcg
Provolone cheese	1 oz.	4mcg
Gouda cheese	1 oz.	4mcg
Broccoli*	1 cup	4mcg

Parmesan	2 Tbsp.	3mcg
Chocolate Carnation		
Instant Breakfast	1 packet	3mcg
Macadamia nuts	1 oz.	3mcg
Kidney beans*	1 cup	3mcg
Garlic, raw	1 oz.	2mcg
Cream cheese	2 Tbsp.	2mcg
Cacao powder	3 Tbsp.	2mcg
Dark chocolate	1 oz.	1.90mcg
Marinara	½ cup	1.85mcg
Ricotta cheese	½ cup	1.70mcg
Peanut butter	2 Tbsp.	1.31mcg
Banana	1 medium	1.26mcg
Miso paste	1 Tbsp.	1.19mcg
Almonds	1 oz.	1.16mcg
Pecans	1 oz.	1.08mcg
Butternut squash*	1 cup	1.02mcg
Watercress	4 oz.	1mcg
Mango	1 cup	0.99mcg
Oranges	1 cup	0.90mcg
Black beans*	1 cup	0.58mcg
Pumpkin	½ cup	0.49mcg
Sweet potato*	1 cup	0.40mcg
Kiwi	1 cup	0.36mcg
Butter	2 Tbsp.	0.30mcg
Blueberries	1 cup	0.15mcg
Red bell peppers	1 cup	0.09mcg

\*cooked

## Zinc

Zinc is a mineral that is involved in protein, collagen, insulin and DNA synthesis. Zinc helps the body fight off disease, skin infections, eczema, acne, common cold and the flu.

It is possible to lose up to 3mg or more of zinc per day from excessive sweating.

Zinc has a long list of benefits:

- may help treat infertility
- restores loss of taste
- prevents prostate problems
- promotes muscle development
- decreases cholesterol deposits
- eliminates white spots on fingernails
- stabilizes the right amount of Vitamin E in the blood
- aids in organ development
- accelerates wound healing

Zinc works well with Vitamin A, Calcium and Phosphorus.

Zinc deficiency symptoms: unexplained weight loss, diarrhea, excessive alcohol, appetite loss, open sores, decreased sense of smell and taste, lack of alertness, enlarged prostate, arteriosclerosis, hypogonadism.

The best sources of Zinc:

Oysters*	4 oz.	37.69mg	Goat*	4 oz.	5.93mg
Bear*	4 oz.	11.65mg	Venison, ground*	4 oz.	5.90mg
King crab*	4 oz.	8.64mg	Kielbasa*	4 oz.	5.70mg
Skirt steak*	4 oz.	8.33mg	Bison ribeye*	4 oz.	5.68mg
Beef ribeye*	4 oz.	7.90mg	Lamb, ground*	4 oz.	5.33mg
Elk, ground*	4 oz.	7.44mg	Beef filet*	4 oz.	5.33mg
Beefalo*	4 oz.	7.26mg	Pork spareribs*	4 oz.	5.20mg
Beef, ground*	4 oz.	6.75mg	Emu, ground*	4 oz.	5.17mg
Pork chop*	4 oz.	6.40mg	Ostrich, ground*	4 oz.	4.91mg
Bison, ground*	4 oz.	6.06mg	Wheat germ	1 oz.	4.70mg
Beef liver*	4 oz.	5.96mg	Venison filet*	4 oz.	4.53mg
Caribou*	4 oz.	5.94mg	Lobster*	4 oz.	4.53mg
Venison, ground*	4 oz.	5.94mg	Ham*	4 oz.	4.40mg

Moose*	4 oz.	4.17mg	Cashews	1 oz.	1.64mg
Duck breast*	4 oz.	3.60mg	Perch*	4 oz.	1.59mg
Salami	4 oz.	3.60mg	Bee pollen	1 tsp.	1.50mg
Quail*	4 oz.	3.50mg	Sardines	4 oz.	1.49mg
Wild Boar*	4 oz.	3.41mg	Greek yogurt	1 cup	1.45mg
Pork tenderloin*	4 oz.	3.26mg	Whitefish*	4 oz.	1.44mg
Clams*	4 oz.	3.10mg	Brown rice*	1 cup	1.43mg
Mussels*	4 oz.	3.03mg	Cottage cheese	1 cup	1.38mg
Tangy Tangerine	2.5 1 scoop	3mg	Herring*	4 oz.	1.37mcg
Hemp seeds	3 Tbsp.	2.97mg	Chia seeds	1 oz.	1.30mg
Oats	1 cup	2.95mg	Pecans	1 oz.	1.28mg
Pumpkin seeds	1 oz.	2.90mg	Flax seeds	1 oz.	1.23mg
Water Buffalo*	4 oz.	2.88mg	Scallops*	4 oz.	1.22mg
Bratwurst*	4 oz.	2.80mg	Chocolate Carnation		
Rabbit*	4 oz.	2.69mg	Instant Breakfast	1 packet	1.20mg
Lentils*	1 cup	2.51mg	Gouda cheese	1 oz.	1.11mg
Chickpeas*	1 cup	2.50mg	Cacao powder	3 Tbsp.	1.10mg
Smelt*	4 oz.	2.40mg	Cheddar cheese	1 oz.	1.04mg
Sesame seeds	1 oz.	2.20mg	Bacon*	1 oz.	0.95mg
Green peas*	1 cup	2.06mg	Pike*	4 oz.	0.95mg
Turkey breast*	4 oz.	1.93mg	Dark chocolate	1 oz.	0.94mg
Black beans*	1 cup	1.93mg	Wild blueberries	1 cup	0.94mg
Shiitakes*	1 cup	1.93mg	Provolone cheese	1 oz.	0.92mg
Antelope*	4 oz.	1.91mg	Walleye*	4 oz.	0.90mg
Shrimp*	4 oz.	1.86mg	Mackerel*	4 oz.	0.90mg
Kidney beans*	1 cup	1.86mg	Whole milk, raw	8 fl. oz.	0.90mg
Pinto beans*	1 cup	1.68mg	Swordfish*	4 oz.	0.88mg
Cornish Game Hen*	4 oz.	1.68mg	Almonds	1 oz.	0.88mg

Mozzarella	1 oz.	0.83mg	Flounder*	4 oz.	0.45mg
Peanut butter	2 Tbsp.	0.81mg	Haddock*	4 oz.	0.45mg
Yellowtail*	4 oz.	0.76mg	Cod*	4 oz.	0.44mg
Blackberries	1 cup	0.76mg	Miso paste	1 Tbsp.	0.44mg
Pollock*	4 oz.	0.68mg	Parmesan	2 Tbsp.	0.43mg
Catfish*	4 oz.	0.68mg	Macadamia nuts	1 oz.	0.40mg
Broccoli*	1 cup	0.67mg	Turbot*	4 oz.	0.32mg
Mahi Mahi*	4 oz.	0.67mg	Carrots	1 cup	0.31mg
Poppy seeds	1 oz.	0.66mg	Butternut squash*	1 cup	0.27mg
Wild salmon*	4 oz.	0.64mg	Kiwi	1 cup	0.25mg
Sweet potato*	1 cup	0.64mg	Red bell peppers	1 cup	0.23mg
Monkfish*	4 oz.	0.60mg	Banana	1 medium	0.19mg
Grouper*	4 oz.	0.58mg	Spinach	1 cup	0.16mg
Sea Bass*	4 oz.	0.57mg	Watercress	4 oz.	0.12mg
Dover sole*	4 oz.	0.54mg	Apples	1 large	0.09mg
Eggs*	1 large	0.52mg	Butter	2 Tbsp.	0.03mg
Raspberries	1 cup	0.52mg	*cooked		
Tilapia*	4 oz.	0.48mg			
Haddock*	4 oz.	0.45mg			

## Glycemic Index

The Glycemic Index is a way of measuring the impact of eating carbohydrates. The Glycemic Index values below will show how fast a specific carbohydrate spikes our blood sugar. Higher numbers convert faster while lower number convert slower. Consuming lower glycemic index foods may improve symptoms of obesity and Type 2 Diabetes.

Low GI (<55), Medium GI (<56-69), High GI (70>).

**Corn Flakes      100**

**Rice Krispies    100**

**Cheerios        100**

**Pure Glucose 100**  
**White Bread 100**  
Fruit Roll-Ups 99  
White Tortillas 97  
Croissants 96  
Baguette Bread 95  
Gnocchi 95  
Rye Bread 92  
Corn Syrup 90  
Sucrose (table sugar) 89  
Muffins 88  
White Rice 87  
Ice Cream 87  
Rice Milk 86  
Baked Potato 85  
Instant Oatmeal 83  
White Pita Bread 82  
Cheese Pizza 80  
Muesli 80  
Popcorn 79  
Fruit cocktail, canned 79  
Oatmeal Cookies 79  
Gatorade 78  
Banana 77  
Pound Cake 77  
White Bread 75  
Kiwi Fruit 75  
Graham Crackers 74

Wheat Bread 74  
Bagel 72  
Watermelon 72  
Pumpnickel Bread 71  
Whole Wheat Bread 71  
Cranberry Juice 68  
Green Peas 68  
Bulgur 68  
Ramen Noodles 67  
Peaches, canned 67  
Pineapple 66  
Grapes 66  
Couscous 65  
Linguine 65  
Raisins 64  
Macaroni 64  
Coca Cola 63  
Oranges 63  
Hamburger Bun 61  
Honey 61  
Oatmeal 61  
Spaghetti 59  
Black-Eyed Peas 59  
Medjool Dates 55  
Plums 55  
Pinto Beans 55  
Sweet Potato 54  
Yams 54



Apples	54
Quinoa	53
Sweet Corn	52
Strawberry Jam	51
Mango	51
Potato Chips	51
Banana	51
Peas	51
Brown Rice	50
Orange Juice	50
Pasta	49
Chickpeas	47
Corn Tortillas	46
Fettuccine	46
Papaya	46
Grapes	46
Split Peas	45
Oranges	43
Peaches	42
Apricots	42
Bran Cereal	42
Lentils	41
Kidney Beans	41
Carrots	39
Barley	36
Fruit Yogurt	36
Chocolate Milk	35
Pears	33

Fat-Free Milk	32
Skim Milk	32
Black Beans	30
Wheat Tortilla	30
Soy Milk	30
Prunes	29
Chickpeas	28
Cashews	27
Whole Milk	27
Barley	25
Grapefruit	25
Kidney Beans	24
Peanuts	21
Broccoli	15
Celery	15
Cucumber	15
Lettuce	15
Asparagus	15
Bell Peppers	15
Spinach	15
Tomatoes	15
Yogurt	14

### **Antioxidants**

ORAC stands for Oxygen Radical Absorbance Capacity- a measure of how effective antioxidants can fight free radical damage (oxidation) in the body. Oxidation is a destructive process where unstable oxygen molecules that try to steal electrons from stable oxygen molecules. Several key factors cause the body to age, one of which is free radical damage. This is one of the leading contributors to inflammation and many degenerative diseases (remember not every disease is genetic). Excessive amounts of free radicals can lead to arthritis, cancer and heart disease.

“Free radicals” are unstable electron molecules that roam free in the body and thus cause harm to us on a cellular level. Environmental factors (air pollution), cooking on high heat with seed oils, poor nutrition, high levels of stress and smoking all contribute to the systemic buildup of free radicals.

Antioxidants are one of the many keys to stopping free radical damage. They are important molecules that give away electrons and remain stable. This stops the dangerous free radical chain reaction and spares the body’s cells from damage.

Antioxidants have many benefits:

- lowers the risk of atherosclerosis
- protects against heart disease and stroke
- reduces your risk of all cancers
- suppresses the growth of tumors
- slows down the progression of Alzheimer’s disease
- protects your eyes from macular degeneration
- offers lung protection from air pollution, asthma, bronchitis and emphysema

The ORAC value is the number assigned to foods that provide us with antioxidants. The higher the ORAC value, the greater the number of antioxidants that food can provide. The U.S. Department of Agriculture recommends a diet that includes fruits and vegetables with the recommendation of 3,000 to 5,000 ORAC points per day (I shoot for 10,000-20,000 points/day).

I believe in the power of a wide range of appropriate foods to capture a wide range of nutrients. There is no one size fits all in the realm of food & nutrition. It would behoove everyone to not buy into any food-based ideology. Sure, you could eat all vegetables or all meat, but what fun is that?

The ORAC values below are based on 1 oz. (28g).

Cloves, ground	82,938	Szechuan pepper, dried	33,828
Bee Pollen	70,028	Acai berry pulp/powder	29,342
Oregano, dried	50,084	Allspice, ground	28,123
Rosemary, dried	47,222	Parsley, dried	21,048
Thyme, dried	44,965	Nutmeg, ground	19,897
Cinnamon, ground	37,548	Basil, dried	17,446
Turmeric, ground	36,305	Cacao powder, raw	15,900
Vanilla bean paste, dried	34,971	Cumin, ground	14,392
Sage, dried	34,265	Baking chocolate	14,269

Curry powder	13,858	Pistachios	2,192
White pepper, ground	11,628	Milk chocolate	2,148
Cocoa powder, Dutched	11,400	Garlic powder	1,904
Ginger, ground	11,154	Apples, dried	1,871
Black pepper	9,729	Plums	1,742
Yellow mustard seed	8,359	Maca powder	1,708
Tangy Tangerine 2.5		Blackberries	1,687
1 scoop	8,000	Garlic, raw	1,630
Thyme, raw	7,836	Cilantro	1,440
Marjoram	7,799	Raspberries	1,447
Chili powder	6,753	Basil	1,372
Paprika	6,266	Blueberries	1,334
Dark chocolate	5,947	Pomegranates	1,279
Cayenne pepper, ground	5,620	Almonds	1,272
Black raspberries	5,491	Dill	1,254
Semisweet chocolate	5,158	Strawberries	1,229
Pecans	5,125	Onion powder	1,225
Tarragon	4,440	Red delicious apples	1,221
Ginger, raw	4,240	Deglet noor dates	1,112
Peppermint	3,993	Granny smith apples	1,102
Oregano	3,991	Cherries	1,070
Walnuts	3,868	Peanut butter, smooth	980
Golden raisins	2,985	Black raisins	973
Hazelnuts	2,755	Kalamata olives	876
Wild blueberries	2,748	Gala apples	808
Chia seeds	2,745	Cardamom, ground	789
Cranberries	2,597	Pomegranate juice	766
Prunes	2,302	Golden delicious apples	762

Fuji apples	733	Broccoli raab*	454
Red cabbage	713	Grapefruit	442
Red leaf lettuce	693	Green leaf lettuce	437
Concord grape juice	682	Red onions	434
Medjool dates	682	Spinach	432
Black beans*	642	Broccoli, raw	422
Pears	628	Cranberry juice	414
Old-fashioned oats	619	Multi-grain bread	406
Broccoli*	617	Guavas	406
Quick oats	607	Brazil nuts	405
Sweet potato*	604	Parsley	371
Chives	598	Mango	371
Pumpernickel bread	560	Lemon juice	350
Cashews	556	Yellow onions	348
Hass avocado	549	Apricots	317
Arugula	544	Coconut oil	299
Peaches	538	Yellow bell peppers	298
Arugula	533	Green grapes	290
Red grapes	524	Romaine lettuce	290
Navel oranges	519	Orange bell peppers	281
Beets	507	Canned salsa	280
Radishes	500	Green bell peppers	267
Popcorn	498	Nectarines	262
Concord grapes	498	Pinto beans*	258
Macadamia nuts	484	Kiwi	246
Potato*	480	White onions	246
Asparagus*	469	Bacon*	238
Tangerine	464	Lime juice	235

Red bell peppers	234	Tomatoes, raw	110
Banana	227	Pineapple	110
Cauliflower*	211	Pineapple	107
Sweet corn, raw	208	Extra virgin olive oil	106
Orange juice	207	Carrots*	93
Pine nuts	205	Cantaloupe	91
Butter	204	Papayas	85
Orange juice, fresh	203	Green beans, canned	82
Tomato sauce, canned	198	Honeydew	72
Apple cider vinegar	176	Cucumber	66
Maple syrup	168	Watermelon	40
Celery	157	Honey	36
Cabbage	151	Salmon	8
Poppy seeds	137	Egg	5
Iceberg lettuce	125	Beef	3
Peaches, canned	124	*cooked	
Red wine vinegar	117		

## Prebiotics & Probiotics

Prebiotics are foods that are non-soluble (non-digestible). They help to feed good bacteria (probiotics). Basically, they are vitamins for the probiotics. Prebiotics come from CARBOHYDRATE fibers (oligosaccharides). You can get oligosaccharides from fruits, legumes and whole grains.

Probiotics are beneficial organisms that support the health of our intestinal tract. Probiotics clean out our intestines which also fight illness and DIS-EASE. Lactobacillus acidophilus, complex carbohydrates, pectin, lactose, Vitamin C and fiber are sources of friendly bacteria that encourage the growth of intestinal flora in the gut microbiome. Friendly bacteria can die within 5 days if they are not given lactic acid or lactose.

Remember the majority of our immune system is found in our gut.

Probiotics have very good benefits:

- flushes out toxins from the intestinal tract
- helps women prevent vaginal yeast infections
- corrects stinky gas, bloating and constipation
- may prevent colon cancer
- may be helpful in treating Colitis (large intestine inflammation), IBS and Crohn's Disease
- fights allergies that lead to acne and eczema

## CoQ10

Coenzyme Q10 is a naturally occurring fat-soluble compound synthesized in our bodies, helping to boost cell function. It also acts as a strong antioxidant that neutralizes the free radicals that can cause oxidative stress and kill you faster. Ubiquinol, the active form of CoQ10, is needed for 95% of our cell's energy production. The body uses CoQ10 to convert carbohydrates and fats into ATP.

CoQ10 helps to recycle Vitamin C & E. CoQ10 is concentrated in our heart, kidneys, liver and pancreas. As we age, our body makes less CoQ10. However, the body is very efficient at recycling CoQ10.

CoQ10 deficiency symptoms: declining cognition, diabetes, cancer, fibromyalgia, heart disease, having a Vitamin B6 deficiency, taking statin drugs.

Reindeer meat* 4 oz.	17.77mg	Herring 4 oz.	2.87mg
Pork heart* 4 oz.	13.27mg	Pork liver* 4 oz.	3.16mg
Chicken liver* 4 oz.	13.07mg	Beef tenderloin* 4 oz.	2.53mg
Beef heart* 4 oz.	12.71mg	Avocado 1 cup	1.90mg
Chicken heart* 4 oz.	10.35mg	Chicken* 4 oz.	1.57mg
Mackerel* 4 oz.	7.59mg	Peanut oil 1 Tbsp.	1.10mg
Beef shoulder* 4 oz.	4.50mg	Canola oil 1 Tbsp.	1mg
Beef liver* 4 oz.	4.38mg	Trout* 4 oz.	1.20mg
Pork shoulder* 4 oz.	4.81mg	Peanuts* 1 oz.	0.80mg
Extra virgin olive oil 1 Tbsp.	1.62mg	Parsley ½ cup	0.75mg
Beef sirloin* 4 oz.	3.48mg	Sesame seeds 1 oz.	0.70mg
Pork* 4 oz.	2.73mg	Sweet potato* 1 cup	0.66mg

Pistachios*	1 oz.	0.60mg	Oranges	1 medium	0.30mg
Sardines	4 oz.	0.56mg	Eggs*	1 large	0.20mg
Walnuts*	1 oz.	0.54mg	Butter	2 Tbsp.	0.20mg
Broccoli*	½ cup	0.50mg	Potatoes*	1 cup	0.16mg
Hazelnuts*	1 oz.	0.47mg	Grapefruit	½ cup	0.13mg
Lentils*	1 cup	0.46mg	Apples	½ cup	0.11mg
Sesame oil	1 Tbsp.	0.45mg	Wheat germ	1 oz.	0.10mg
Raw milk	8 fl. oz.	0.43mg	Strawberries	½ cup	0.10mg
Tuna, canned	1 oz.	0.42mg	Swiss cheese	1 oz.	0.03mg
Salmon*	3.5 oz.	0.40mg	*cooked		
Cauliflower*	½ cup	0.40mg			

## Creatine

Although creatine is not an “essential” nutrient, it is very useful for athletic individuals. Creatine is a blend of three amino acids: methionine, glycine, arginine. These three amino acids get converted into creatine phosphate and phosphocreatine which are then stored in our muscles for energy. Creatine boosts phosphocreatine levels. Phosphocreatine helps to create adenosine triphosphate (ATP); the energetic currency throughout our body.

You will lose a good chunk of creatine when you cook meats. Consume the drippings or use them to make a sauce. Sure, you can supplement with creatine monohydrate. However, this is best for vegetarians and vegans who will naturally have very low levels of creatine since they don’t consume meat.

The best sources of Creatine:

Beef burgers	4 oz.	1.02g	Chicken breast	4 oz.	0.405g
Herring	4 oz.	1.02g	Rabbit	4 oz.	0.405g
Beef Gravy	4 oz.	1.02g	Tuna	4 oz.	0.405g
Salmon	4 oz.	1.02g	Cod	4 oz.	0.304g
Pork	4 oz.	0.709g	Sausage	4 oz.	0.152g
Ham	4 oz.	0.608g	Bacon	4 oz.	0.101g
Venison	4 oz.	0.51g	Milk	8 fl. oz.	0.10g
Lamb	4 oz.	0.507g	Cranberries	4 oz.	0.002g



## Conclusion

In conclusion, you can get virtually all of your vitamins, minerals and key nutrients from food. Do you need to supplement? Maybe! It really depends on the person. Your best bet is to buy your food from a local farmer's market or grow your own food (be sure to add wood ashes into your compost pile).

Get the majority of your vitamins and minerals from high-quality foods and fill in any nutrient gaps with the appropriate supplements. However, you cannot just take supplements to put a band-aid over a poor diet.

You need the enzymes in food to digest vitamins and minerals. Supplements have their place but do your research. Use common sense and take them with fat to properly absorb.

Question everything and don't believe everything you read, hear and see. Eat a wide range of foods so that you get the most out of this epigenetic game of life. Remember, every 7 years all of the cells in our body regenerates. You then have a whole new body.

What you put in this body makes all of the difference in the world.

We all have divine power within us.

We have the power to create our own reality.

Make every single day count, Why Not!

## Bibliography

### Introduction

Balch, Phyllis A. Prescription for Nutritional Healing 4<sup>th</sup> Edition.

Penguin Books. 2006. pg. 9,380.

Honey Dew Donuts <https://honeydewdonuts.com/menu/>

Carl's Jr. <https://www.nutrition-charts.com/carls-jr-nutrition-facts-calorie-information>

La Madeleine [www.nutritionix.com/la-madeleine/nutrition-calculator/premium](http://www.nutritionix.com/la-madeleine/nutrition-calculator/premium)

Macaroni Grill <https://tinyurl.com/48mnyk3r>

Dunn Brothers Coffee <https://dunnbrothers.com/food-nutrition-allergen-information/>

Eastside Mario's <https://www.eastsidemarios.com/en/nutrition.html>

The Old Spaghetti Factory <https://www.osf.com/about/nutrition/>

Wawa <https://www.wawa.com/fresh-food/nutrition-quality-food/nutrition>

Qdoba <https://www.qdoba.com/public/assets/documents/qdoba-nutrition-information.pdf>

Whataburger <https://wbimageserver.whataburger.com/Nutrition.pdf>

Wendy's <https://www.nutrition-charts.com/wendys-nutrition-facts/>

McDonald's [nutrition.mcdonalds.com/nutrition1/nutritionfacts.pdf](http://nutrition.mcdonalds.com/nutrition1/nutritionfacts.pdf)

Burger King <https://company.bk.com/pdfs/nutrition.pdf>

Little Caesar's <https://littlecaesars.com/static/1583506314-nutritionflyer.pdf>

TGI Friday's <https://tinyurl.com/2abmn8p5>

Logan's Roadhouse <https://tinyurl.com/26xfrbw8>

Popeye's <https://www.nutrition-charts.com/popeyes-nutrition-facts-calorie-information/>

Texas Roadhouse [https://www.nutritionix.com/texas-roadhouse/nutrition-calculator/premium](http://www.nutritionix.com/texas-roadhouse/nutrition-calculator/premium)

Domino's <https://www.dominos.com/en/pages/content/nutritional/nutrition>

Papa John's <https://www.papajohns.com/company/nutritional-details/index.html>

Outback Steakhouse <https://tinyurl.com/25m584sx>

Arby's <https://tinyurl.com/3enfkvk5>

Sonic <https://tinyurl.com/e97tnxa8>

Dairy Queen <https://www.dairyqueen.com/en-us/nutrition/>

Hardee's <https://hardees.com/menu>

Bob Evan's <https://www.bobevans.com/nutrition>

Red Robin <https://tinyurl.com/3sjpbxbn>  
[https://www.redrobin.com/sites/default/files/2022-05/0522\\_NS\\_US-All\\_Updated.pdf](https://www.redrobin.com/sites/default/files/2022-05/0522_NS_US-All_Updated.pdf)

Chipotle <https://www.nutrition-charts.com/chipotle-nutrition-facts-calorie-information/>

Culver's <https://www.culvers.com/menu-and-nutrition/nutrition-grid>

Applebee's <https://www.applebees.com/en/nutrition/info>

Krispy Kreme <https://www.krispykreme.com/about/nutritional-info>

Dunkin Donuts <https://www.dunkindonuts.com/content/dam/dd/pdf/nutrition.pdf>

Starbucks <https://www.starbucks.ie/nutrition>

Cold Stone Creamery <https://tinyurl.com/5n75jhhn>

Oberweis <https://www.oberweis.com/fountain-menu>

Ben & Jerry <https://www.benjerry.com/flavors>

Haagen-Dazs <https://www.icecream.com/us/en/brands/haagen-dazs/products/>

Del Taco <https://deltaco.com/files/pdf/2021/nutritionals-08-2021.pdf?v=1.1>

In & Out Burger <https://www.nutrition-charts.com/in-n-out-burger-nutrition-information/>

Rally's <https://tinyurl.com/2p9e2sww>

Panera <https://www.nutrition-charts.com/panera-bread-nutrition-facts-calorie-information/>

Denny's <https://www.dennys.com/menu>

Sbarro <https://sbarro.com/wp-content/uploads/2017/07/SbarroNutritionalGuide.pdf>

Jack in the Box [static.jackinthebox.com/pdfs/nutritional\\_brochure.pdf](static.jackinthebox.com/pdfs/nutritional_brochure.pdf)

Five Guys <https://tinyurl.com/3r9zke9x>

Red Lobster <https://www.nutrition-charts.com/red-lobster-nutrition-facts-calorie-information/>

Shake Shack <https://tinyurl.com/yc78b42x>

Chick-Fil-A <https://www.chick-fil-a.com/nutrition-allergens>

The Cheesecake Factory <https://tinyurl.com/2ae8y6yu>

Smash Burger <https://smashburger.com/menu/>

California Pizza Kitchen <https://www.eatthis.com/unhealthiest-frozen-pizza/>  
<https://www.nutrition-charts.com/california-pizza-kitchen-nutrition-facts-calorie-information/>  
Boston Market <https://tinyurl.com/2kzfp6hj>  
Au Bon Pain <https://www.aubonpain.com/Assets/au-bon-pain-nutritional-menu-spring-22.pdf>  
Great Harvest Bread <https://www.greatharvest.com/our-food/bread-nutrition-info>  
Big Boy <https://tinyurl.com/zfy88ub7>  
Shoney's <https://tinyurl.com/bded9b9v>  
P. F. Chang's <https://www.pfchangs.com/nutrition>  
Golden Corral <https://www.goldencorral.com/nutrition/>  
Bar Louie <https://tinyurl.com/29mmu4cc>  
Twin Peaks <https://tinyurl.com/2mn9rvwu>  
Waffle House <https://tinyurl.com/465p75pb>  
Buca di Beppo <https://tinyurl.com/mr2m4h69>  
Cracker Barrel <https://tinyurl.com/yujcnw88>  
Uno's Pizzeria & Grill <https://www.unos.com/nutrition.php>  
Maggiano's Little Italy <https://tinyurl.com/2pcf2xcb>  
Carrabba's Italian Grill <https://tinyurl.com/bdeptf5x>  
Longhorn Steakhouse <https://tinyurl.com/nb5fw26e>  
Bojangles <https://www.bojangles.com/menu/nutrition/>  
Hooter's <https://www.hooters.com/perch/resources/hooters-nutritional-menu-final-5-718.pdf>  
Yard House [https://media.yardhouse.com/en\\_us/pdf/yard\\_house\\_nutrition.pdf](https://media.yardhouse.com/en_us/pdf/yard_house_nutrition.pdf)  
Captain D's <https://tinyurl.com/5n7t5xa7>  
O'Charley's <https://tinyurl.com/5n7tx5ba>  
Famous Dave's <https://tinyurl.com/sf2d43bu>  
On the Border Mexican Grill <https://tinyurl.com/5kjinpmfh>  
Black Bear Diner <https://tinyurl.com/3m4wjdn2>  
Bahama Breeze <https://tinyurl.com/55jd9dk4>  
Beef O Brady's <https://tinyurl.com/uy8k4x7x>

Planet Smoothie <https://www.planetsmoothie.com/menu>

Tropical Smoothie Cafe <https://tinyurl.com/ywr94r6n>

Jamba Juice <https://www.jamba.com/smoothies>

Smoothie King <https://www.smoothieking.com/menu/smoothies/nutrition>

Robeks <https://robeks.com/nutrition.html>

Duyff, R. L. Complete Food & Nutrition Guide. Academy of Nutrition and Dietetics. 2017; 786.

Food and Agriculture Organization of the United Nations. The state of food insecurity in the world 2004. Rome: Food and Agriculture Organization of the United Nations; 2004. Available at: <ftp://ftp.fao.org/docrep/fao/007/y5650e/y5650e00.pdf>

Malone M. Recommended nutritional supplements for bariatric surgery patients. Ann Pharmacother. 2008;42(12):1851-1858. <https://pubmed.ncbi.nlm.nih.gov/19017827/>

Halsted CH. Nutrition and alcoholic liver disease. Semin Liver Dis. 2004;24(3):289-304. <https://pubmed.ncbi.nlm.nih.gov/15349806/>

Craig WJ. Health effects of vegan diets. American Journal of Clinical Nutrition. 2009;89(5):1627S-1633S. <https://pubmed.ncbi.nlm.nih.gov/19279075/>

Farr, B. Understanding the Benefits of Saturated Fat. 2014. <https://tinyurl.com/y932s2kc>

Adachi, K. Forbidden Cures. 2002. <http://educate-yourself.org/fc>

Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein and Amino Acids. Institute of Medicine of the National Academies. 2005. <https://tinyurl.com/yc72s5fv>

Wallach, J. Dead Doctors Don't Lie. Wellness Publications; 2nd edition. 2004.

Rinzler, C. Nutrition 7<sup>th</sup> Edition. John Wiley & Sons, Inc. p.233-234

A Calorie Counter. Fast Food Items Highest in Trans Fat. 2021.

[www.acaloriecounter.com/fast-food.php](http://www.acaloriecounter.com/fast-food.php)

## Macros

Monounsaturated Fats : How can they benefit you.

[www.heart-health-guide.com/monounsaturatedfats.html](http://www.heart-health-guide.com/monounsaturatedfats.html)

Stone, N. How the Body Uses Cholesterol. 2007. <https://health.howstuffworks.com/diseases-conditions/cardiovascular/cholesterol/how-the-body-uses-cholesterol.htm>

26 Best Omega-3 Foods to Fight Inflammation and Support Heart Health. Eat This, Not That! 2019. [www.eatthis.com/omega-3-foods](http://www.eatthis.com/omega-3-foods)

Taylor, J. 2011. Zone Nutrition LTD. <http://paleozonenutrition.wordpress.com>

U.S. Department of Agriculture, Agricultural Research Service. Food Data Central, 2019. [fdc.nal.usda.gov](http://fdc.nal.usda.gov).

Connolly, Kiah. 50 High Protein Foods to Help You Hit Your Macros. 2020 [www.trifectanutrition.com](http://www.trifectanutrition.com)

Roskelley, A. The Complete High Protein Food List. 2020. [www.healthbeet.org](http://www.healthbeet.org)

Whitbread, D. 16 Nuts and Seeds High in Protein. 2021. [www.myfooddata.com](http://www.myfooddata.com)

My Food Data. <https://tools.myfooddata.com/nutrient-ranking-tool>

Nutrition Value. [www.nutritionvalue.org](http://www.nutritionvalue.org)

Nutrition Data Self. <https://nutritiondata.self.com>

Kessler AT, Raja A. Biochemistry, histidine. In: StatPearls. Treasure Island (FL): StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK538201/>

Winchester Hospital. Health Library. Histadine. <https://www.winchesterhospital.org/health-library/article?id=21750>

U.S. National Library of Medicine, PubChem. <https://pubchem.ncbi.nlm.nih.gov/compound/Histidine>

Bajotto, G. et al. Effect of BCAA Supplementation During Unloading on Regulatory Components of Protein Synthesis in Atrophied Soleus Muscles. European Journal of Applied Physiology. Volume 111, Issue 8, pp. 1815-28. 2011.

Sharp, C. and Pearson, D. Amino Acid Supplements and Recovery from High-Intensity Resistance Training. Journal of Strength and Conditioning Research. Volume 24, Issue 4, pp. 1125-30. 2010.

National Cancer Institute. Leucine. [https://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI\\_Thesaurus&ns=NCI\\_Thesaurus&code=C29599](https://ncit.nci.nih.gov/ncitbrowser/ConceptReport.jsp?dictionary=NCI_Thesaurus&ns=NCI_Thesaurus&code=C29599)

Lysine Deficiency: Symptoms and Causes of Low Lysine Levels. 2011. <https://www.tandurust.com/health-faq-5/lysine-deficiency.html?msclkid=621e070cb46c11eca05f6ff33e8e7828>

National Center for Biotechnology Information. PubChem Database. <https://pubchem.ncbi.nlm.nih.gov/compound/Methionine#section=ClinicalTrials-gov>

Christiansen, S. What is Methionine? 2020. <https://www.verywellhealth.com/methionine-4771763>

Methionine Deficiency: Symptoms And Diet Foods For Low Methionine. 2011. <https://tinyurl.com/9t37x795>

Ruggeri, C. Threonine: The Amino Acid Needed for Collagen Production. 2019. <https://draxe.com/nutrition/threonine/?msclkid=0c6f5af9b47411ec86cd30538d6f6fb7>

Levy, J. Get More Tryptophan for Better Sleep, Moods & Fewer Headaches. 2018. <https://draxe.com/nutrition/tryptophan/?msclkid=aae79c0fb47711ec97851c615ded6da6>

Tryptophan Deficiency: Are you Deficient? Signs & Symptoms. <https://nootriment.com/tryptophan-deficiency/>

Moehn, S., Pencharz, PB., Ball, RO., Lessons learned regarding symptoms of tryptophan deficiency and excess from animal requirements studies. J. Nutrition. 2012.

Quigley, R. L-Valine Supplement: Benefits, Dosage & Side Effects. 2019. <https://community.bulksupplements.com/valine-pump-benefits-dosage/?msclkid=a534d0c6b47d11ec999e3c6d5cbd4868>

## Vitamins

Piro A, Tagarelli G, Lagonia P, Tagarelli A, Quattrone A. Casimir Funk: his discovery of the vitamins and their deficiency disorders. Ann Nutr Metab. 2010;57(2):85-8.

Ali, C. The ABCs of Vitamin Deficiency: Symptoms You Can Treat Yourself. University Health News. 2017.

Mindell, E., Mundis, H. Dr. Earl Mindell's Vitamin Bible. Grand Central Publishing. 2021: 2-122

Arnarson, A. 20 Foods That Are High in Vitamin A. 2017. [www.healthline.com](http://www.healthline.com)

Joseph, M. 30 Foods High in Thiamin. 2020. [www.nutritionadvance.com](http://www.nutritionadvance.com)

National Institutes of Health; Office of Dietary Supplements. Thiamin: Fact Sheet for Health Professionals. 2019. <https://ods.od.nih.gov/factsheets/Thiamin-HealthProfessional>

Levy, J. Thiamine Deficiency Symptoms & Dangers You Don't Want to Ignore. 2018. <https://draxe.com/nutrition/thiamine-deficiency/>

U.S. Department of Health and Human Services. Vitamin B2 Fact Sheet for Health Professionals. 2020. <https://ods.od.nih.gov/factsheets/Riboflavin-HealthProfessional/>

Institute of Medicine. Food and Nutrition Board. Dietary Reference Intakes: Thiamin, Riboflavin, Niacin, Vitamin B6, Folate, Vitamin B12, Pantothenic Acid, Biotin, and Choline. Washington, DC: National Academy Press; 1998.

Schoenen J, Jacqy J, Lenaerts M. Effectiveness of high-dose riboflavin in migraine prophylaxis A randomized controlled trial. *Neurology*. 1998 Feb 1;50(2):466-70.

Rivlin RS. Riboflavin. *Encyclopedia of Dietary Supplements*. 2<sup>nd</sup> ed. London and New York: Informa Healthcare; 2010:691-9.

Said HM, Ross AC. Riboflavin. *Modern Nutrition in Health and Disease*. 11<sup>th</sup> ed. Baltimore, MD: Lippincott Williams & Wilkins; 2014:325-30.

Institute of Medicine. Food and Nutrition Board. Dietary Reference Intakes: Thiamin, Riboflavin, Niacin, Vitamin B6, Folate, Vitamin B12, Pantothenic Acid, Biotin, and Choline. Washington, DC: National Academy Press, 1998.

National Institutes of Health Office of Dietary Supplements: Niacin Fact Sheet for Health Professionals <https://ods.od.nih.gov/factsheets/Niacin-HealthProfessional/>

Bose, I. Choline Deficiency: Symptoms & Risk Factors. 2020. <https://www.organicfacts.net/choline-deficiency-symptoms-risk-factors.html>

S. Department of Health and Human Services. Vitamin B4 Fact Sheet for Health Professionals. 2020. <https://ods.od.nih.gov/factsheets/Choline-HealthProfessional/>

Institute of Medicine. Food and Nutrition Board. Dietary Reference Intakes: Thiamin, Riboflavin, Niacin, Vitamin B6, Folate, Vitamin B12, Pantothenic Acid, Biotin, and Choline. Washington, DC: National Academy Press; 1998.

Chen YQ, Zhao SP, Zhao YH. Efficacy and tolerability of coenzyme A vs pantethine for the treatment of patients with hyperlipidemia: A randomized, double-blind, multicenter study. *Journal of clinical lipidology*. 2015 Sep 1;9(5):692-7.

Top 101 Foods High in Vitamin B5. Agricultural Research Service. FoodData Central. 2019. <https://nutrientoptimiser.com/top-foods-and-recipes-high-in-vitamin-b5-pantothenic-acid>

Levy, J. Vitamin B5/Pantothenic Acid Deficiency & How to Get Enough. 2021. <https://draxe.com/nutrition/vitamin-b5/>

Levy, J. What Is A Biotin Deficiency? 2019. <https://draxe.com/nutrition/biotin-deficiency/>

Institute of Medicine. Dietary reference intakes for thiamin, riboflavin, niacin, vitamin B6, folate, vitamin B12, pantothenic acid, biotin, and choline. Washington, DC: National Academy Press, 1999.



Top 101 Foods High in Vitamin B6. U.S. Agricultural Research Service. Food Data Central. 2019. <https://nutrientoptimiser.com/top-foods-and-recipes-high-in-vitamin-b6>

Heitz, D. Symptoms of Vitamin B Deficiencies. 2020.

<https://www.healthline.com/health/symptoms-of-vitamin-b-deficiency>

Staggs CG, Sealey WM, McCabe BJ, Teague AM, Mock DM. Determination of the biotin content of select foods using accurate and sensitive HPLC/avidin binding. Journal of food composition and analysis: an official publication of the United Nations University, International Network of Food Data Systems 2004;17:767-76. <https://pubmed.ncbi.nlm.nih.gov/16648879/>

Dolan, C. 20 Foods High in Biotin for Healthy Hair and Nails. 2013. <https://healthwholeness.com/health/biotin-foods>

Panoff, L. The Top 10 Biotin-Rich Foods. 2020.

<https://www.healthline.com/nutrition/biotin-rich-foods>

Ball, GFM. Biotin. In: Vitamins In Foods: Analysis, Bioavailability, and Stability. CRC Press, Boca Raton, FL, 220-30; 2005.

Baruah, S. Biotin Rich Foods. 2021. <https://roncuvita.com/blogs/news/biotin-rich-foods>

Biotin. Linus Pauling Institute: Micronutrient Information Center, Oregon State University, 22 Aug. 2016.

Rakicevic, M. 2022. 23 Vitamin B12 Foods to Feel Positive & Energetic in 2022.

<https://medalerthelp.org/blog/vitamin-b12-foods/>

Institute of Medicine (US) Panel on Dietary Antioxidants and Related Compounds. Dietary Reference Intakes for Vitamin C, Vitamin E, Selenium, and Carotenoids. Washington (DC): National Academies Press (US); 2000.

Tremblay, S. Does a Bell Pepper Lose Vitamin C From Turning Yellow to Red? 2018.

<https://healthyeating.sfgate.com/bell-pepper-lose-vitamin-c-turning-yellow-red-7074.html>

Raman, R. How to Safely Get Vitamin D From Sunlight. 2018. <https://www.healthline.com/nutrition/vitamin-d-from-sun>

Nair, R., Maseeh, A. Vitamin D: The “sunshine” vitamin. Journal of Pharmacology & Pharmacotherapeutics. p. 118-126. 2012. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3356951/>

Blake, S. Vitamins & Minerals Demystified. McGraw-Hill. 2008. 101-102.

Ives, R., Brickley, M. The Bioarchaeology of Metabolic Bone Disease p. 75-150. 2008. <https://doi.org/10.1016/B978-0-12-370486-3.00005-6>

National Institute of Health. Office of Dietary Supplements. Vitamin D. 2021. <https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/>

National Library of Medicine. National Center for Biotechnology Information. Seasonal and geographical variations in lung cancer prognosis in Norway. Does Vitamin D from the sun play a role? Porojnicu, A., Robsahm, T., Dahlback, A., Berg, J., Christiani, D., Bruland, O., Moan, J. 2006. <https://pubmed.ncbi.nlm.nih.gov/17207891/>

Institute of Medicine. Dietary reference intakes for vitamin C, vitamin E, selenium, and carotenoids. Washington, D.C.: National Academies Press; 2000.

National Institutes of Health Office of Dietary Supplements: Vitamin K Fact Sheet for Health Professionals. 2018. <https://ods.od.nih.gov/factsheets/VitaminK-HealthProfessional/>

USDA National Nutrient Database for Standard Reference. Foods for Vitamin K. Release 26, 2013. [www.heartclinicoflouisiana.com/documents/Foods\\_With\\_VitaminK.pdf?msclkid=b0779259b15311ec961d3888699ebbd6](http://www.heartclinicoflouisiana.com/documents/Foods_With_VitaminK.pdf?msclkid=b0779259b15311ec961d3888699ebbd6)

Vitamin K Deficiency: Signs, Causes and How to Increase Intake. 2021. <https://betteryour.com/blogs/health-hub/vitamin-k-deficiency-symptoms-causes>

My Food Data. <https://tools.myfooddata.com/nutrient-ranking-tool>

Nutrition Value. [www.nutritionvalue.org](http://www.nutritionvalue.org)

Nutrition Data Self. <https://nutritiondata.self.com>

## Minerals

Heaney RP. Calcium. In: Coates PM, Betz JM, Blackman MR, et al., eds. Encyclopedia of Dietary Supplements. 2nd ed. London and New York: Informa Healthcare; 2010:101-6.

Weaver CM, Heaney RP. Calcium. In: Ross AC, Caballero B, Cousins RJ, Tucker KL, Ziegler TR, eds. Modern Nutrition in Health and Disease. 11th ed. Baltimore, MD: Lippincott Williams & Wilkins; 2014:133-49.

Gröber U, Schmidt J, Kisters K. Magnesium in Prevention and Therapy. Nutrients. 2015 Sep 23;7(9):8199-226

Marcin, A. Phosphorus Deficiency. 2018. <https://tinyurl.com/2p99w4k7>

Goncalves C, et al. Sodium and K<sup>+</sup> urinary excretion and dietary intake: a cross-sectional analysis in adolescents. Food Nutrition Research. 2016; 60:10.3402. PMCID: [4829664](#)

O’Keefe JH, et al. Nutritional strategies for skeletal and cardiovascular health: hard bones, soft arteries, rather than vice versa. Open Heart. 2016; 3(1): e000325. PMCID: [4809188](#)

He FJ, and MacGregor GA. Beneficial effects of K<sup>+</sup> on human health. 2008 Aug; 133(4): 725-35. PMID: [18724413](#)

Terker, AS, et al. K<sup>+</sup> Modulates Electrolyte Balance and Blood Pressure through Effects on Distal Cell Voltage and Chloride. Cell Metabolism. 2015 Jan; 21(1): 39-50. PMCID: [4332769](#)

Jameson JL, et al., eds. Hyponatremia and hypernatremia. In: Endocrinology: Adult and Pediatric. 7th ed. Philadelphia, Pa.: Saunders Elsevier; 2016. <https://www.clinicalkey.com>

Hanks, H. Ten Troublesome Symptoms of Copper Deficiency. 2018.  
<https://healthwholeness.com/health/symptoms-of-copper-deficiency-how-to-correct-it/?msclkid=a0dedb83af0111eca990554748d41654>

Institute of Medicine. Dietary Reference Intakes. Washington: National Academies Press; 2006 and Pennington J, Spungen J. Bowes & Church's Food Values Portions Commonly Used, 19E Lippincott Williams and Wilkins, 2010.

U.S. Department of Health and Human Services. Iodine Fact Sheet for Health Professionals. <https://ods.od.nih.gov/factsheets/Iodine-HealthProfessional/>

Dolan, C. 22 Foods Highest in Iodine. 2013.

<https://healthwholeness.com/nutrition/iodine-rich-foods/?msclkid=639cd64cafc511ecac14dca6160285f9>

Abt, E.; Spungen, J.; Pouillot, R.; Gamalo-Siebers, M.; Wirtz M. (2018). Update on dietary intake of perchlorate and iodine from U.S. Food and Drug Administration’s total diet study: 2008–2012. J Expo Sc Env Epi 28:21-30. DOI:10.1038/jes.2016.78

Caldwell, K.L.; Pan, Y.; Mortensen, M.E.; Makhmudov, A.; Merrill, L.; Moye, J. (2013). Iodine status in pregnant women in the National Children’s Study and in U.S. women (15-44 years), National Health and Nutrition Examination Survey 2005-2010. Thyroid 23(8):927-937. DOI:10.1087/thy.2013.0012

- Ershow, A.G.; Goodman, G.; Coates, P.M.; Swanson, C. A. (2016). Research needs for assessing iodine intake, iodine status, and the effects of maternal iodine supplementation. *Am J Clinical Nutrition* 104(Suppl):941S– 949S. DOI:10.3945/ajcn.116.134858
- Ershow, A.G.; Skeaff, S.A.; Merkel, J.M.; Pehrsson, P.R. (2018). Development of databases on iodine in foods and dietary supplements. *Nutrients* 10, 100:1-20. DOI:10.3390/nu10010100
- Fischer, P.W.; L'Abbe, M.R.; Giroux, A. (1986). Colorimetric determination of total iodine in foods by iodide-catalyzed reduction of Ce+4. *J AOAC Int* 69:687–689.
- Haytowitz, D.B.; Pehrsson, P.R. (2018). USDA's National Food and Nutrient Analysis Program (NFNAP) produces high-quality data for USDA food composition databases: Two decades of collaboration, *Food Chem* 238(1): 134-138. DOI:10.1016/j.foodchem.2016.11.082
- Jahreis, G.; Hausmann, W.; Kiessling, G.; Franke, K.; Leiterer, M. (2001). Bioavailability of iodine from normal diets rich in dairy products – results of balance studies in women. *Exp Clin Endocr Diab* 109:163- 167. DOI:10.1055/s-2001-14840
- Lee, K.W.; Shin, D.; Cho, M.S.; Song, W.O. (2016a). Food group intakes as determinants of iodine status among US adult population. *Nutrients* 8:325; DOI:10.3390/nu8060325.
- Lee, K.W.; Cho, M.S.; Shin, D.; Song, W.O. (2016b). Changes in iodine status among US adults, 2001- 2012. *Int J Food Sc Nutr* 67(2):184-194; DOI:10.3109/09637486.2016.1144717.
- Murphy, E.W.; Criner, P.E.; Gray, B.C. (1975). Comparison of methods for determining retentions of nutrients in cooked foods. *J Agric Food Chem* 23:1153-1157; DOI:10.1021/jf60202a021
- Pearce, E.N. (2015). Is iodine deficiency reemerging in the United States? *AACE Clinical Case Reports* 1(1): e81-82. DOI:10.4158/EP14472.CO.
- Pehrsson, P.R.; Patterson, K.Y.; Spungen, J.H.; Wirtz, M.S.; Andrews, K.W.; Dwyer, J.T.; Swanson, C.A. (2016). Iodine in food- and dietary supplement–composition databases. *Am J Clin Nutr* 104(Suppl):868S– 876S. DOI:10.3945/ajcn.115.110064
- Phillips, K.M.; Patterson, K.Y.; Rasor, A.S.; Exler, J.; Haytowitz, D.B.; Holden, J.M.; Pehrsson, P.R. (2006). Quality control materials in the USDA National Food and Nutrient Analysis Program (NFNAP). *Anal Bioanal Chem* 384(6):1341-1355. DOI: 10.1007/s00216-005-0294-0
- Reinivuo, H.; Bell, S.; Ovaskainen, M-L. (2009). Harmonisation of recipe calculation procedures in European food composition databases. *J Food Comp Anal* 22:410-413. DOI:10.1016/j.jfca.2009.04.003
- Rohner, F.; Zimmermann, M.; Jooste, P.; Pandav, C.; Caldwell, K.; Raghavan, R.; Raiten, D.J. (2014). Biomarkers of nutrition for development—iodine review. *J Nutr* 144:1322S–1342S. DOI:10.3945/jn.113.181974
- Schakel, S.F.; Buzzard, I.M.; Gebhardt, S.E. (1997). Procedures for estimating nutrient values for food composition databases. *J Food Comp Anal* 10:102-114.

Sullivan, D.; Zywicki, R. (2012). Determination of total iodine in foods and dietary supplements using inductively coupled plasma-mass spectrometry. *J AOAC Int* 95(1):195-202. DOI:10.5740/jaoacint.11-350

Swanson, C.A.; Zimmermann, M.B.; Skeaff, S.; Pearce, E.N.; Dwyer, J.T.; Trumbo, P.R.; Zehaluk, C.; Andrews, K.W.; Carriquiry, A.; Caldwell, K.L.; et al.(2012). Summary of an NIH workshop to identify research needs to improve the monitoring of iodine status in the United States and to inform the DRI. *J Nutr* 142(Suppl): 1175S–1185S. DOI:10.3945/jn.111.156448

Todorov, T.I.; Gray, P.J. (2017). Inductively coupled plasma-mass spectrometric determination of iodine in food using tetramethyl ammonium hydroxide extraction. *Elemental Analysis Manual Method 4.13*. U.S. Food and Drug Administration. Available online: <https://www.fda.gov/media/103112/download> (accessed on 9 December 2019).

U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS). (2019). FoodData Central. Available online: <https://fdc.nal.usda.gov/> (accessed on 11 June 2019).

U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS). (2007). USDA Table of Nutrient Retention Factors, Release 6. Version current 2007. Available online: <http://www.ars.usda.gov/Main/docs.htm?docid=9448>

U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS) and U.S. Department of Health and Human Services, National Institutes of Health, Office of Dietary Supplements. (2017) Dietary Supplement Ingredient Database (DSID) release 4.0. Available online: <https://dsid.usda.nih.gov>

U.S. Food and Drug Administration (FDA). 2020. Total Diet Study. Available online: <https://www.fda.gov/food/science-research-food/total-diet-study>

U.S. Food and Drug Administration (FDA).2019. Code of Federal Regulations, Title 21 CFR136.110. <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?fr=136.110>

Wenlock, R.W.; Buss, D.H. (1982). Trace nutrients 4\*. Iodine in British food. *Br J Nutr* 47:381-390. DOI:10.1079/BJN19820049

Clénin GE. The treatment of iron deficiency without anaemia (in otherwise healthy persons). *Swiss Med Wkly*. 2017;147:w14434. doi:10.4414/smw.2017.14434.

Higdon J, et al. (2010). Manganese. [ipi.oregonstate.edu/mic/minerals/manganese](http://pi.oregonstate.edu/mic/minerals/manganese)

Levy, J. Selenium Deficiency Symptoms and Natural Remedies to Combat. 2019. <https://draxe.com/nutrition/selenium-deficiency/?msclkid=9327f03cb08e11ecb39289bdb5efe0ca>

Ansari TM, Ikram N, Najam-ul-Haq M, Fayyaz I, Fayyaz Q, Ghafoor I, et al. Essential Trace Metal (Zinc, Manganese, Copper and Iron) Levels in Plants of Medicinal Importance. *J Biol Sci* 2004;4(2):95-9.

U.S. Department of Agriculture, Agricultural Research Service. Manganese. Food Data Central, 2019. <https://fdc.nal.usda.gov>

USDA National Nutrient Database for Standard Reference Legacy. 2018. <https://nal.usda.gov/sites/www.nal.usda.gov/files/manganese.pdf?msclkid=4c789174b11811ec8237c583e7011482>

Zinc: Fact sheet for consumers. 2016. <https://ods.od.nih.gov/factsheets/Zinc-Consumer/>

My Food Data. <https://tools.myfooddata.com/nutrient-ranking-tool>

Nutrition Value. [www.nutritionvalue.org](http://www.nutritionvalue.org)

Nutrition Data Self. <https://nutritiondata.self.com>

### Glycemic Index

American Diabetes Association. Glycemic Index and Diabetes. <http://www.diabetes.org/food-and-fitness/food/what-can-i-eat/understanding-carbohydrates/glycemic-index-and-diabetes.html>

Redmer, J., Minichiello, V., Rakel, D. Glycemic Index. Whole Health Library. [www.va.gov/wholehealthlibrary/tools/glycemic-index.asp](http://www.va.gov/wholehealthlibrary/tools/glycemic-index.asp)

Atkinson FS, Foster-Powell K, Brand-Miller JC. International tables of glycemic index and glycemic load values: 2008. *Diabetes care*. 2008;31(12):2281-2283.

Thomas DE, Elliott EJ, Baur L. Low glycaemic index or low glycaemic load diets for overweight and obesity. *Cochrane Database Syst Rev*. 2007(3):Cd005105.

Zafar MI, Mills KE, Zheng J, Peng MM, Ye X, Chen LL. Low glycaemic index diets as an intervention for obesity: a systematic review and meta-analysis. *Obes Rev*. 2019;20(2):290-315.

Zafar MI, Mills KE, Zheng J, et al. Low-glycemic index diets as an intervention for diabetes: a systematic review and meta-analysis. *Am J Clin Nutr*. 2019;110(4):891-902.

Thomas D, Elliott EJ. Low glycaemic index, or low glycaemic load, diets for diabetes mellitus. *Cochrane Database Syst Rev*. 2009;1(1).

Ojo O, Ojo OO, Adebawale F, Wang X-H. The effect of dietary glycaemic index on glycaemia in patients with type 2 diabetes: a systematic review and meta-analysis of randomized controlled trials. *Nutrients*. 2018;10(3):373.

Wang Q, Xia W, Zhao Z, Zhang H. Effects comparison between low glycemic index diets and high glycemic index diets on HbA1c and fructosamine for patients with diabetes: A systematic review and meta-analysis. *Prim Care Diabetes*. 2015;9(5):362-369.

Schiltz B, Minich DM, Lerman RH, Lamb JJ, Tripp ML, Bland JS. A science-based, clinically tested dietary approach for the metabolic syndrome. *Metab Syndr Relat Disord*. 2009;7(3):187-192.

Glycemic Index Research. The University of Sydney. [www.glycemicindex.com](http://www.glycemicindex.com)

Runyon, J. Glycemic Index Food List. [www.ultimatepaleoguide.com](http://www.ultimatepaleoguide.com)

Mazmanyany, V. Glycemic index chart. 2022. [www.foodstruct.com](http://www.foodstruct.com)

### Antioxidants

Haytowitz, D., Bhagwat, S. USDA Database for the Oxygen Radical Absorbance Capacity (ORAC) of Selected Foods, Release 2. Nutrient Data Laboratory, Beltsville Human Nutrition Research Center (BHNRC,) Agricultural Research Service (ARS), U.S. Department of Agriculture (USDA). 2010. [www.orac-info-portal.de/download/ORAC\\_R2.pdf?msclkid=0ab52424c5ba11ecb6c066ffe3f1736b](http://www.orac-info-portal.de/download/ORAC_R2.pdf?msclkid=0ab52424c5ba11ecb6c066ffe3f1736b)

### CoQ10

Myers, C. Pros & Cons of Taking CoQ10. 2020.

<https://medshadow.org/pros-cons-of-taking-coq10/#>

Sunderman, A. CoQ10 Food Sources. 2020.

<https://www.swansonvitamins.com/blog/articles/coq10-food-sources.html>

Coenzyme Q10 Contents in Foods and Fortification Strategies. Critical Reviews in Food Science and Nutrition. 2010.

Superfoodly. CoQ10 Foods. 2019.

<https://www.superfoodly.com/coq10-foods-the-50-highest-natural-dietary-sources/>

Garrido-Maraver J, Cordero MD, Oropesa-Ávila M, Fernández Vega A, de la Mata M, Delgado Pavón A, de Miguel M, Pérez Calero C, Villanueva Paz M, Cotán D, Sánchez-Alcázar JA. Coenzyme q10 therapy. Mol Syndromol. 2014 Jul;5(3-4):187-97. doi: 10.1159/000360101. PMID: 25126052; PMCID: PMC4112525. <https://pubmed.ncbi.nlm.nih.gov/25126052/>

### Creatine

Booth, L. 30 Natural Food Sources of Creatine.

<https://fitbod.me/blog/natural-food-sources-creatine/>



## About the Author

Chef Jay has been working as a chef since 2006. After culinary school, he held numerous positions over the years, including the U.S. Army, Cuisine Magazine and the Food Network. He is also the co-founder of Why Bars. Currently, Jay lives in Michigan with his wife, Miranda.

### Jay's Books

Super Cacao: The Ultimate Super Food

<https://tinyurl.com/3hke9tw7>

Check Out Chia

<https://tinyurl.com/2cc4zj8k>

Conscious Consumption

<https://tinyurl.com/39dcxm4t>

Survey Central

<https://tinyurl.com/ye25ap5s>